

Nashua Street Residences



Submitted to:
Boston Redevelopment Authority
One City Hall Square
Boston, MA 02201

Submitted by:
Avalon Bay Communities, Inc.
51 Sleeper Street, Suite 750
Boston, MA 02210

Prepared by:
Epsilon Associates, Inc.
3 Clock Tower Place, Suite 250
Maynard, MA 01754

In Association with:
CBT Architects
Goulston & Storrs
Howard/Stein-Hudson Associates, Inc.
Vanasse Hangen Brustlin, Inc.
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Haley & Aldrich
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Chapter 1.0

General Information and Project Description

1.0 GENERAL INFORMATION AND PROJECT DESCRIPTION

1.1 Introduction

The Nashua Street Residences Project is a high rise residential building located on an air-rights parcel on Nashua Street adjacent to the TD Garden/North Station, the O'Neill Federal Building and property of the Massachusetts General Hospital. The Project is located in the West End neighborhood of Boston (See Figures 1-1 and 1-2). The Site is located near the intersection of the West End, Bulfinch Triangle and North End neighborhoods of Boston, Massachusetts General Hospital medical area, Government Center, and the Financial District. Both the West End and North End neighborhoods are historically rich and diverse neighborhoods with large residential populations and many commercial and institutional resources making the Site an ideal location for expanding opportunities for multi-family residential development. The Site is also extremely well-served by public transportation as both the Orange and Green subway lines and the northern rail commuter line converge at the adjacent North Station enhancing this Site for transit-oriented residential development.

The Site is also part of a larger urban pedestrian sequence that connects the West End neighborhood and the Bulfinch Triangle to the North End and serves as an urban connector element between these vibrant and active neighborhoods as well as the primary commuter access to the waterfront, Government Center and Financial District from North Station.

Over the past several years the neighborhood has been in rapid transition to a more pedestrian oriented residential neighborhood supported by several urban planning initiatives, such as the Rose Kennedy Greenway District Planning Study, and the Crossroads Initiative which includes Causeway Street and Lomasney Way as well as several new residential projects planned or underway in the area.

The Project Site itself is at the nexus of pedestrian and vehicular circulation traffic from the adjacent North Station commuter hub and TD Garden event space. The ground floor public realm component of the Project will serve to improve, organize, connect, and enliven the public pedestrian experience for this unique Site and create a pedestrian path connecting Causeway Street, Nashua Street and the entrance to the TD Garden and MBTA Station. This new grand thoroughfare will re-establish a larger urban connection between the West End, the Bulfinch Triangle and North End as well as serve to create an active and vibrant atmosphere for both North Station commuters and event-goers at the TD Garden.

The Site is also part of a larger urban gateway into the City of Boston from all points north, and along with the Zakim Bridge, will form a prominent portal into the City that will signify arrival and reinforce the iconic nature of the Site within the City.



Nashua Street Residences Boston, Massachusetts



Nashua Street Residences Boston, Massachusetts

1.2 Project Team

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Permitting Consultants:	Epsilon Associates, Inc. 3 Clock Tower Place, Suite 250 Maynard, MA 01754 (978) 897-7100 Peggy Briggs Tyler Norod
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1.3 Project History

This Site has been the subject of prior submissions and approvals under Article 80. A similar high rise residential project was approved for the Site in 2005 (Previously Approved Project). The Previously Approved Project was proposed by the Boston Garden Development Corporation (the Prior Developer). The Previously Approved Project underwent an extensive public review process under Article 80, including review of a Project Notification Form (PNF) filed February 27, 2003 and a joint Draft Project Impact Report/Draft Environmental Impact Report (DPIR/DEIR) filed October 15, 2004. The BRA Board voted on April 7, 2005 to authorize the Director to issue a Preliminary Adequacy Determination for the Previously Approved Project, which was issued by the Director on May 5, 2005. A Notice of Project Change (NPC) was filed with the BRA on May 25, 2006, which requested the conversion of proposed rental apartment units into condominium units and the increase in number of parking spaces from 244 to 270. The NPC was approved by the BRA Board on August 10, 2006. The subsequent collapse of the financial markets caused the Previously Approved Project to be put on hold before construction could commence. The current Proponent proposes to alter the Project within the limits of the previously approved height as described in this Notice of Project Change in order to make it viable in current market conditions.

1.4 Project Description

1.4.1 *Previously Approved Project*

The Previously Approved Project, as described in the DPIR, and as modified by the First NPC, was an approximately 572,071 sf residential building with above grade parking located within the building's base. The Previously Approved Project included 363 residential units and approximately 270 parking spaces. The Previously Approved Project was 415 feet tall or thirty-seven stories. The ground floor was designed to offer lobbies, and active spaces providing convenience services for residents and passers-by.

1.4.2 *Project Description*

The Project is a 38-story building with 503 residential units consisting of studios, one-, two-, and three-bedroom units. The Proponent anticipates that the residential units will initially be operated as residential apartments but may be converted into condominiums in the future depending on market conditions. However, since the Project will initially be operated on an apartment rental basis, the analyses in this NPC have been based on apartment use, which for analyses such as transportation yield more conservative results.

The ground floor of the building will include a two-story pedestrian arcade cutting through the center of the Project. The arcade has been designed to better connect the surrounding neighborhoods while simultaneously improving the pedestrian environment creating a unique and inviting urban space helping to guide pedestrian movement at one of Boston's most important transit nodes. The arcade will organize pedestrian circulation from North Station and the TD Garden to Causeway Street and the West End increasing safety and enhancing the overall pedestrian experience. The Project will be constructed in air rights above the existing below-grade parking garage. Parking for the residents will be provided in an above grade parking structure located in the base of the building. The Project will contain 219 parking spaces.

1.4.2.1 **Project Comparison**

The Project has similar impacts to the Previously Approved Project but has been modified to better reflect the current market conditions and take better advantage of the transit oriented nature of the Site. Although the height of the Project will remain consistent with the Previously Approved Project at 415 feet¹, due to a simpler structural design the Proponent was able to accommodate another story of residential space to the Project increasing the number of stories from 37 to 38. In addition, the Project will now contain approximately 636,550 sf for an increase of approximately 64,480 sf. The number of residential units has increased from 363 units in the Previously Approved Project to 503

¹ Heights for buildings in the DPIR and this NPC are measured to the top of the last habitable space.

units. However, recognizing the opportunities presented by the location of the Project adjacent to the North Station transit hub, the number of parking spaces has been decreased from 270 to 219 and the Project will contain storage areas for one bicycle per residential unit.

Overall, Project impacts are anticipated to be similar to those of the Previously Approved Project. However, the revised Project will offer increased public benefits including greater support for affordable housing and an improved pedestrian environment.

Table 1-1 Building Program Comparison

Project Element	Approximate Measurements Previously Approved Project	Approximate Measurements Currently Proposed Project	Approximate Change
Total Square Feet	572,071 sf	636,551 sf	64,480 sf
Height (according to Boston Zoning Code)	415 feet (37-stories)	415 feet (38-stories)	None
Residential	363 units	503 units	120 units
Retail	7,794 sf	3,575 sf	-4,219 sf
Parking	270 spaces	219 spaces (503 storage spaces for bicycles)	-61 spaces

1.5 Public Benefits

The Project will provide numerous benefits to both the City and the surrounding community. These public benefits include the increased opportunities for housing including affordable housing, the contribution of the Project to the continued revitalization of the West End neighborhood, the urban design/public realm improvements that will benefit the surrounding neighborhood and the entire city.

Public Realm Improvements

The Project will provide a variety of public realm improvements to the surrounding neighborhood, including:

- ◆ Filling in a void in the urban fabric while extending a high quality pedestrian oriented streetscape to the Project Site.
- ◆ The Project will have the dual benefit of increased street lighting and “eyes on the street” from residential units, leading to enhanced neighborhood vibrancy and safety.

- ◆ The Project has been redesigned to include a two story pedestrian arcade bisecting the Project Site from east to west. The arcade will help improve safety and organize pedestrian access to North Station and the TD Garden in a way that will accommodate peak event and commuter traffic. The arcade will partially shield pedestrians from the elements and provide a more welcoming atmosphere for events and the use of public transportation.
- ◆ In anticipation of future demand the pedestrian arcade will be lined by retail space within the Project. The creation of retail space along the arcade will allow for a unique urban space for local residents, transit riders and TD Garden visitors alike.
- ◆ The arcade entrance on Nashua Street is located directly across from an open space parcel owned by the MBTA that is bounded by Nashua Street and Lomasney Way. Pending discussions with the MBTA, the Project proposes to landscape this open space to better integrate it into the greater pedestrian sequence between neighborhoods and to complete the pedestrian connection through the Site and to the West End. This open space design has the potential to create an inviting and convenient resting point along this urban route, to organize and improve pedestrian traffic flow crossing over multiple streets, and to create an inviting ‘front yard’ to the residential project.

Residential Opportunity/Affordable Housing

- ◆ The Project will provide much needed residential opportunities to the area including the equivalence of an increase of 54 affordable housing units as described below.
- ◆ The number of affordable units on site and the total payments to the Affordable Housing Trust Fund will exceed that of the Previously Approved Project. In accordance with the Inclusionary Housing Policy, the Proponent is will comply with the commitment applicable to the Previously Approved Project that 18 of the units be affordable with an additional payment of \$1,404,000 towards the Affordable Housing Trust Fund. The additional 140 residential units will be subject to the Current Inclusionary Housing Policy requirements that 15% of the market rate units or 13% of total units be made affordable. Of the additional 140 residential units, approximately 9 units will be designated as affordable and an additional \$1,800,000 will be contributed to an Affordable Housing Trust Fund. The Project will thus yield the equivalence of approximately 54 affordable units through a combination of approximately 27 on-site affordable units and contribution of approximately \$3,204,000 for contribution to the Affordable Housing Trust Fund. On-Site affordable units will be representative of the total Project in terms of the number of bedrooms.

Sustainability

- ◆ The Project is an excellent example of Transit Oriented Development (TOD) and will create approximately 503 new residential units proximate to excellent public transportation and employment centers.
- ◆ The Proponent is committed to developing buildings that are sustainably designed, energy efficient, and environmentally conscious. Consistent with Article 37 of the Boston Zoning Code, the Proposed Project will be at a minimum Leadership in Energy and Environmental Design (LEED) certifiable. A full discussion of the Project's sustainable features is included in Section 3.2.

Financial

The Project will include numerous financial benefits to the neighborhood and the City of Boston, including:

- ◆ Approximately 650 construction jobs and 15-20 permanent jobs will be created.
- ◆ The Proponent estimates that, upon Project completion, the Project will generate over \$1,750,000 per year in property taxes, a substantial increase from the existing site.
- ◆ As agreed upon as part of the mitigation for the Previously Approved Project, the Proponent remains committed to providing approximately \$300,000 to support streetscape improvements along Causeway Street associated with the City's Crossroads Initiative.
- ◆ The Proponent also remains committed to providing \$75,000 to help support a supermarket shuttle as agreed upon as part of the mitigation for the Previously Approved Project.

1.6 Legal Information

1.6.1 Legal Judgments or Actions Pending Concerning the Project

The Proponent is not aware of any legal judgments in effect or other legal actions pending which involve the Project.

1.6.2 History of Tax Arrears on Property Owned in Boston

The Proponent does not own any real estate in Boston in which real estate tax payments are in arrears. The Proponent is not aware of any ownership by 120 Nashua Street, LLC and Garden Corporation, the current owner, of real estate in Boston in which real estate tax payments are in arrears.

1.6.3 Site Control / Legal Easements

The Project Site is owned by 120 Nashua Street, LLC and Garden Corporation. The Proponent, as Buyer, and 120 Nashua Street, LLC, and Garden Corporation, collectively, as Seller, are parties to a purchase and sale agreement regarding the Project Site. Minor areas, such as subsurface footings, will be conveyed by the BRA.

1.6.4 Nature of any public easements into, through or surrounding the Site

There are no public easements in or through the Project Site. The Property is subject to certain easements for the benefit of the MBTA and the Seller, which will be accommodated and to the extent necessary relocated, as part of the design of the Project.

1.6.5 Zoning

The Original Project received zoning relief from the City of Boston Zoning Board of Appeal regarding height, floor area ratio and sky plane setback on New Nashua Street in a decision dated June 7, 2005, which was filed with the Inspectional Services Department on September 14, 2005. This relief has been extended on a number of occasions. Most recently, on August 2, 2012, the zoning relief granted by the Boston Board of Zoning Appeal for the Original Project was extended to September 14, 2013.

The Proposed Project will require relief from the City of Boston Zoning Board of Appeal, confirming and extending the relief previously granted regarding height and sky plane setback on New Nashua Street/Nashua Street and granting relief from the following provisions of the Boston Zoning Code: (1) the floor area ratio requirement of Section 39-6; (2) elimination of the condition of the prior decision prohibiting units smaller than 550 SF; and (3) possible special exceptions from street wall continuity and street wall height requirements.

Table 1-2 Zoning Calculations – Comparison of Original Project to Proposed Project

	Original Project*	Proposed Project	Project Change
Site (air rights)	35,210 SF	35,210 SF	No change
Gross SF	572,071 SF	636,551 SF	64,480 SF
FAR Excluding Parking	12.89	14.9	2.01
FAR	16.2*	18.1	1.86
Height**	415 feet	415 feet	No change

*The 2005 Decision of the Zoning Board of Appeal approved 15.7 FAR.

** Measured to the top of last occupiable floor.

1.7 Regulatory Controls and Permits

Table 1-3 presents a preliminary list of permits and approvals from governmental agencies which are presently expected to be required for the Project, based on Project information currently available. It is possible that not all of these permits or actions will be required, or that additional permits or actions may be needed, all of which will become evident during project design and development.

Table 1-3 Anticipated Permit Requirements

Agency Name	Permit / Approval
LOCAL	
Boston Redevelopment Authority	Article 80A Determination on Notice of Project Change and Execution of Agreements under Article 80B Large Project Review Minor Modification of Urban Renewal Plan re FAR Taking and conveyance of air rights [i.e. footings] Design Review
Boston Zoning Board of Appeal	Zoning Relief; Building Code Variance (if required)
Boston Civic Design Commission	Schematic Plan Design Review update
Boston Transportation Department	Transportation Access Plan Agreement Construction Management Plan
Boston Air Pollution Control Commission	Confirmation of Exemption of Parking Spaces for Residents
Boston Water and Sewer Commission	Water and sewer connection permits Temporary Construction Dewatering Permit (if required) Cross-connection permit (if required) Site Plan Review
Public Works Department	Curb cut permit (if applicable)
Public Safety Commission	Permit to erect and maintain parking structure
Joint Committee on Licenses	Flammable storage license
Public Improvement Commission	Vertical discontinuance of air rights Improvements within public streets or sidewalks (if applicable)
Inspectional Services Department	Building Permit
STATE	
Massachusetts Environmental Protection Agency	Notice of Project Change (determination of insignificance)
Massachusetts Historical Commission	Determination of No Adverse Effect (copy of Notice of Project Change to be provided)
Department of Conservation and Recreation or MassDOT Division of Highways	Highway Access Permit (if applicable)
Executive Office of Transportation and Construction	Approval for building permit on land on or adjacent to railroad corridor [Received]
Department of Environmental Protection	Sewer Connection Permit
Massachusetts Water Resources Authority	Temporary Construction Dewatering Discharge Permit (if required)

Table 1-3 Anticipated Permit Requirements (Continued)

Agency Name	Permit / Approval
FEDERAL	
Federal Aviation Administration	Determination of No Hazard
U.S. Environmental Protection Agency	NPDES Notice of Intent for Construction (if required)

1.8 Massachusetts Environmental Policy Act

The Project is subject to review under the Massachusetts Environmental Policy Act (MEPA). The Previously Approved Project underwent an extensive review process under MEPA, including review of an Environmental Notification Form (ENF) filed April 15, 2004, a joint Draft Project Impact Report/Draft Environmental Impact Report (DPIR/DEIR) filed October 15, 2004, and a Final Environmental Impact Report filed February 15, 2005. A MEPA Certificate on the FEIR was issued on April 1, 2005. An Advisory Opinion was issued resulting in no finding, no Lapse of Time under the MEPA regulations as of December 14, 2010. A Notice of Project Change will be filed with the MEPA office.

1.9 Schedule

It is anticipated that construction will commence in the Fall of 2013. Once begun, construction is expected to be completed by the end of 2016.

1.10 Public Participation

As part of the Notice of Project Change, the Proponent is committed to effective community outreach and will continue to engage the community to ensure public input on the Project. The Proponent has met with or plans to meet with the following agencies, public officials, and community groups. The Proponent will also meet with other organizations who express an interest in meeting.

- ◆ Impact Advisory Group members
- ◆ The Downtown North Association
- ◆ The West End Council
- ◆ The West End Place Residences
- ◆ The West End Civic Association
- ◆ City Councilor Michael Ross
- ◆ Representative Marty Walz
- ◆ The MBTA
- ◆ The GSA O'Neil Building
- ◆ The Boston Transportation Department
- ◆ The Boston Redevelopment Authority
- ◆ The Boston Civic Design Committee

Chapter 2.0

Transportation

2.0 TRANSPORTATION

2.1 Introduction

This chapter presents the transportation impacts associated with the Notice of Project Change (NPC) for the proposed Nashua Street Residences Project. The changes to the Project will not significantly increase the impacts of the Project in terms of transportation as compared to the Previously Approved Project.

2.2 Project Description

The Previously Approved Project completed a comprehensive transportation impact study as part of the Draft Project Impact Report (DPIR) submitted on October 15, 2004. The Previously Approved Project, as analyzed in the DPIR transportation impact study, consisted of 368 condominium units, 7,794 square feet (sf) of retail space, and 244 parking spaces. The Previously Approved Project throughout the DPIR is 363 units (224 condominiums and 139 apartments) but the traffic study is based on 368 condominium units.

A supplementary traffic study was not prepared in connection with the First NPC, which converted the Previously Approved Project to all condominiums (363 units) and increased the parking spaces from 244 to 270. The number and type of residential units assessed in the DPIR/DEIR is similar to that approved as part of the First Notice of Project Change for the Project.

The revised Project consists of 503 residential units, 3,575 sf of retail space, and 219 parking spaces. Because no additional traffic study was prepared for the First NPC, the following chapter is based on a comparison of the original transportation analysis as included as part of the DPIR for the Previously Approved Project. A building program comparison is presented in Table 2-1.

Table 2-1 Building Program Comparisons

	A	B	C = B minus A
Program Description	DPIR: Previously Approved Residential Project	NPC: Proposed Residential Project	Change: NPC compared to DPIR
Residential (units)	368	503	+ 135
Retail (sf)	7,794	3,575	-4,219
Garage Parking (spaces)	244	219	-25

2.2.1 Trip Generation

Following standard traffic engineering procedures, trip generation estimates are derived from the Institute of Transportation Engineers' (ITE) *Trip Generation* (9th edition, 2012) trip rates. Travel mode split data for the West End supplied by the Boston Transportation Department (BTD) are then applied to the trip rates for each land use to estimate trips across mode shares.

The overall trip generation estimated for the Project is expected to be slightly higher than the Previously Approved Project due to the increase of residential units. The Previously Approved Project analyzed 368 residential units and the revised Project proposes 503 residential units. However, the Previously Approved Project proposed condominiums, and used ITE Land Use Code (LUC) 230 – Residential Condominium/Townhouse for analysis. The revised Project proposes residential units, which will initially be operated as rental apartments, and accordingly, uses LUC 222 – High-Rise Apartment for assessment of trip generation. Since the ITE trip generation rate is lower for the High-Rise Apartment land use than for the Residential Condominium/Townhouse land use, only marginal increases in the overall trip generation estimate result from the addition of the additional residential units on a rental basis.

Retail trips were not included in the DPIR analysis of the Previously Approved Project since the nature, location, and type of retail was expected to result in minimal, if any, new trips to the Site, particularly vehicle trips. This is a reasonable assumption for a retail use at this location. To be consistent with the DPIR, this NPC also does not assign trips to the proposed retail space. Since the size of the retail space has decreased in the Project from the Previously Approved Project, if trips had been assigned to this use in the DPIR, such trips also would have decreased in this NPC.

2.2.1.1 Vehicle Trips

As presented in Table 2-2, the Project is expected to result in 98 additional average daily vehicle trips as compared to the Previously Approved Project. The Project would result in an increase of six additional vehicle trips during the morning peak hour and seven additional vehicle trips in the evening peak hour as compared to the Previously Approved Project. This level of additional vehicle trips associated with the Project will be imperceptible to the traffic operations assessment presented in the DPIR.

Table 2-2 Vehicle Trip Generation Comparison

	A	B	C = B minus A
Time Period/ Direction	DPIR: Previously Approved Residential Project	NPC: Proposed Residential Project	Change: NPC compared to DPIR
Daily			
In	195	244	49
Out	195	244	49
Total	390	488	98
a.m. peak			
In	4	6	2
Out	21	25	4
Total	25	28	6
p.m. peak			
In	20	23	3
Out	10	14	4
Total	30	33	7

2.2.1.2 Transit Trips

Table 2-3 presents the expected transit trip generation of the Project compared to the Previously Approved Project. The Project adds a small number of additional transit trips as compared to the Previously Approved Project in both the a.m. peak hour (7 trips) and in the p.m. peak hour (3 trips). Over the course of a day, 38 additional transit trips are estimated to be added.

Table 2-3 Transit Trip Generation Comparison

	A	B	C = B minus A
Time Period/ Direction	DPIR: Previously Approved Residential Project	NPC: Proposed Residential Project	Change: NPC compared to DPIR
Daily			
In	160	179	19
Out	160	179	19
Total	320	358	38
a.m. peak			
In	4	7	3
Out	17	21	4
Total	21	28	7
p.m. peak			
In	19	19	0
Out	10	13	3
Total	29	32	3

2.2.1.3 Pedestrian/Bicycle Trips

Table 2-4 similarly shows the expected pedestrian/bicycle trip generation for the Previously Approved Project and the Project. The Project is expected to generate 270 additional pedestrian/bicycle trips over the course of the day as compared to the Previously Approved Project. The Project is also expected to generate 29 more pedestrian/bicycle trips in the a.m. peak hour and 32 more trips in the p.m. peak hour than the Previously Approved Project. The Project will provide secure storage space for one bicycle per unit.

Table 2-4 Pedestrian/Bicycle Trip Generation Comparison

	A	B	C = B minus A
Time Period/ Direction	DPIR: Approved Residential Project	NPC: Proposed Residential Project	Change: NPC compared to DPIR
Daily			
In	695	830	135
Out	695	830	135
Total	1,390	1,660	270
a.m. peak			
In	20	30	10
Out	93	112	19
Total	113	142	29
p.m. peak			
In	88	102	14
Out	43	61	18
Total	131	163	32

2.2.2 Parking

Parking for the Project will be provided in an above-grade garage similar to the Previously Approved Project. The Project will provide approximately 219 spaces, a decrease of 25 spaces from the 244 spaces provided in the Previously Approved Project. Parking for the Project is proposed at 0.44 spaces per residential unit.

The BTG Guidelines for *maximum* parking ratios in the West End for residential uses range from 0.5 to 1.0 spaces per unit. These rates do not distinguish between types of housing (i.e., for sale condominiums vs. rental apartments). Current trends indicate that parking demand for rental apartments is about half that of for-sale condominiums (0.50 vs. 1.0 spaces per unit) in Boston’s downtown neighborhoods. If there is any residential demand for parking in excess of the 219 spaces, this demand can be met at one of several off-Site parking garages in the immediate vicinity of the Project.

2.2.3 Site Access

As presented in Figure 2-1, the Project will retain Site access similar to that previously developed and reviewed for the Previously Approved Project. Access to the residents' parking garage and the loading area will be from the Nashua Street via Red Auerbach Way. Loading for the Previously Approved Project was to be provided in the first floor level of the MBTA garage. The loading area for the Project will now be located at street level and will now be separated from the TD Garden Garage parking ramp. The TD Garden Garage parking ramp and the TD Garden Elephant Ramp will remain accessed as they are today.

Modifications and improvements to curbs and curb use in the immediate vicinity of the Site are proposed. The current EZ Ride stop in front of the Site will be relocated to Nashua Street just north of the Site to allow for a pick-up/drop-off curb for the Project. The Proponent will work with BTB and the Charles River Transportation Management Associates, which operates the EZ Ride Shuttle, on relocating this stop. The Proponent is currently working with TD Garden and the Massachusetts Bay Transportation Authority (MBTA), which owns several land parcels in the area, to maintain access for large entertainment trucks (WB-67 tractor-trailers) to the Elephant Ramp, while improving the triangular area in front of the Site as open space. Coordination also is being undertaken with the General Services Administration (GSA) in determining improvements to this area.

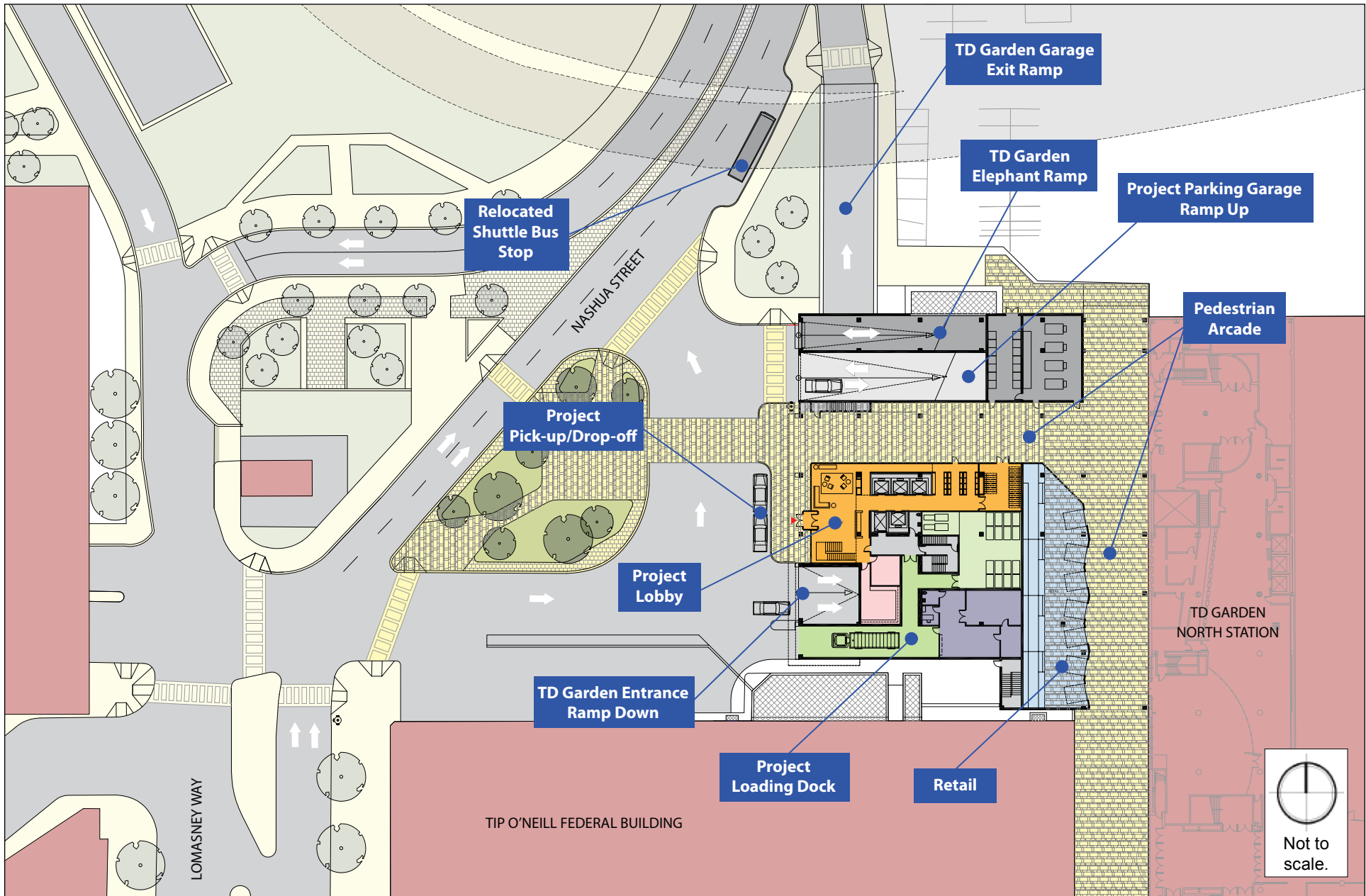
2.2.4 Loading and Building Servicing:

The Project will have an internal loading dock with one loading bay at street level. All move-in/move-out activity will be coordinated in the loading area. Trash containers will be wheeled into the loading bay for pick-up.

Trucks of up to 36 feet in length (SU-36) will back into the loading area from Old Nashua Street via Red Auerbach Way. The Proponent will continue to work with BTB on all access concerns, including the design, operation, and management of the loading dock which will be codified in the Transportation Access Plan Agreement (TAPA).

2.2.5 Transportation Mitigation

A complete transportation mitigation package was previously developed in 2005 as part of a draft Transportation Access Plan Agreement (TAPA). The Proponent intends to abide by the intent of the prior transportation mitigation agreements both in terms of traffic mitigation elements and travel demand management (TDM) measures. Since the draft TAPA was developed over 7 years ago, certain elements of the prior commitments may need to be updated and modified based on the Project's building program and current transportation mitigation needs in the area and the Proponent will consult with BTB to determine any appropriate modifications.



Nashua Street Residences Boston, Massachusetts

2.2.5.1 Traffic Mitigation

Traffic mitigation commitments determined for the draft TAPA will form the basis of the development of Project commitments based on current needs in the area and discussions with BTM. It is expected that streetscape and pedestrian safety improvements in the immediate vicinity of the site will continue to be an important component of Project mitigation. As in the prior draft TAPA, the Proponent also expects that a future evaluation of vehicle circulation and pedestrian safety in the area of the Project will be part of the mitigation package. The Proponent will work with both BTM on appropriate mitigation for the Project.

2.2.5.2 Travel Demand Management

The Proponent will work with the BTM to develop a comprehensive travel demand management (“TDM”) program appropriate to the Project and consistent with its level of impact. The draft TAPA will form the framework for these TDM measures. It is expected that certain additional updated TDM measures will be included in the TAPA, including additional secure bicycle storage for residents and bicycle racks for visitors, and electric vehicle charging stations.

2.2.6 Final Transportation Permitting

2.2.6.1 Transportation Access Plan Agreement (TAPA)

The Proponent will enter into a TAPA with the City acting through the Boston Transportation Department (BTM). The TAPA will memorialize the specific measures, mitigation, and agreements between the Proponent and BTM. The TAPA will codify both traffic mitigation commitments and a travel demand management program for the Project.

A draft TAPA was previously developed between the prior Proponent and BTM. The Proponent intends to abide by the intent of the prior draft agreement, modified according to the Project’s building program and current transportation mitigation needs in the area based on discussions with BTM. An engineered Site plan will be submitted with the TAPA.

2.2.6.2 Boston Air Pollution Control Commission (BAPCC)

Since the parking to be provided for the Project will be entirely for residential use, the Project will require confirmation from the Boston Air Pollution Control Commission (BAPCC) of exemption of the residential parking garage from the parking freeze provisions applicable to commercial parking in the downtown.

2.2.6.3 Public Improvement Commission

Certain streetscape improvements will require Public Improvement Commission (PIC) review and approval. Improvements along portions of Nashua Street may require review and approval of the MBTA, MassDOT and/or DCR. The Proponent will work with the City and the State and will conform all improvements to appropriate guidelines.

2.2.6.4 Construction Management Plan

The Proponent will develop a comprehensive Construction Management Plan (CMP) for review and approval by BTM. The CMP will detail the schedule, staging, parking, delivery, and other associated impacts of the construction of the Project.

Chapter 3.0

Development Review Component

3.0 DEVELOPMENT REVIEW COMPONENT

3.1 Environmental Component

3.1.1 *Wind*

The Proponent consulted with Rowan Williams Davies & Irwin (RWDI) which performed the wind analysis for the Previously Approved Project (See Appendix A). Because of the Project's similar height and massing RWDI has confirmed that it anticipates similar pedestrian wind conditions to those of the Previously Approved Project. As with the Previously Approved Project, the Project will consider where appropriate the inclusion of wind mitigation measures such as tall parapets, screens, trellises and trees as the design progresses.

3.1.2 *Shadow*

3.1.2.1 Introduction and Methodology

Due to change in some building massing shadow studies were performed for both the previous DPIR and this NPC. New shadows from the Project are anticipated to be similar to that of the Previously Approved Project and do not offer any significant new impacts to the surrounding area.

The shadow studies present impacts for existing and build conditions for the hours of 9:00 am, 12:00 Noon, and 3:00 pm for the vernal equinox, summer solstice, autumnal equinox and winter solstice, and for 6:00 pm in the summer and fall. It should be noted that due to time differences (daylight savings vs. standard) the autumnal equinox shadows are not the same as the vernal equinox, and therefore are presented as separate studies.

The shadow analysis includes shadows from the Previously Approved Design, the revised Project as well as existing shadow, illustrating the incremental increase or decrease in shadows associated with the redesigned building. For purposes of clarity, new shadows are shown in a light blue, reduced shadows of the Previously Approved Project are shown in dark grey and a lighter gray was used to indicate existing shadow (See Figures 3-1 through 3-14). These changes are due to slight massing changes to the building's design.

The Nashua Street Residences will be located over the existing MBTA garage. The Site is bounded by the O'Neil Federal Building to the south, by the TD Garden to the east, the Expressway to the north, and Nashua Street to the west. The shadow analysis evaluates new shadow cast on existing or proposed public open spaces and major pedestrian areas, including, but not limited to, the sidewalks and pedestrian walkways adjacent to and in the vicinity of the Project, existing and proposed parks and open space (Nashua Street Park adjacent to the Spaulding Rehabilitation Hospital, the Portal Park southeast of the TD Garden and the North Point Park across the Charles River).

3.1.2.2 Vernal Equinox – March 21

On March 21 at 9:00 am, the Project casts minimal new shadow in a northwesterly direction. New shadow falls on highway ramps, sidewalks along Nashua Street and toward the Suffolk County Jail.

By noon, shadows are cast to the north with minimal new shadows falling primarily on the elevated Expressway and North Station train tracks. Some new shadow will fall onto the sidewalk north of the Project building and onto the roof of the TD Garden.

At 3:00 pm, the Project casts shadows to the east. Shadow impacts are improved in comparison to the Previously Approved Project with shadows now covering reduced areas of the TD Garden roof and North Station train tracks.

3.1.2.3 Summer Solstice – June 21

On June 21 at 9:00 am, new Project shadows fall westerly onto the elevated Expressway and area roads. Some new shadows will fall on the sidewalks along Nashua Street and Martha Road but overall shadows are anticipated to be similar to the Previously Approved Project.

At noon, similar to the Previously Approved Project, shadows have shortened to about a third of the length of the 9:00 am shadows. New shadow is cast to the northwest onto the Expressway.

At 3:00 pm, the Project casts shadows to the east. Minimal new shadows fall on the roof of the TD Garden.

By 6:00 pm, the sun has lowered in the sky and shadows have lengthened. Minimal new shadows from the Project are cast to the east across the roof of the TD Garden, onto Causeway Street while small portions of the previous shadows will be reduced due to the revised design.

3.1.2.4 Autumnal Equinox – September 21

At 9:00 am on September 21, new shadow from the Project is cast to the northwest. The parking lot south of the Suffolk County Jail and portions of the Expressway will experience some new shadow. Some sidewalk areas along Nashua Street are also within new shadow cast by the Project. Overall, the new shadow is similar to that of the Previously Approved Project with minimal new shadow affecting a slightly wider range of the same area.

By noon, shadows have shortened and are cast to the north. The Project results in new shadow on the Spaulding Rehabilitation Hospital parking lot and the Expressway as well as some reductions to the anticipated shadows of the Previously Approved Project.

At 3:00 pm, the Project casts shadow to the northeast. New shadows offer a slight overall reduction compared to shadows from the Previously Approved Project with less shadows predicted to fall on the TD Garden roof as well as the pedestrian sidewalks to the northeast of the Project Site.

At 6:00 pm, the Project casts long shadows to the east. Most of the Project's shadow overlaps existing shadow with a sliver of new shadow expanding to the south just barely clipping the corner of the Greenway and Beverly Street. New shadows fall onto the TD Garden roof, on the east side of the Expressway and onto a few buildings in the North End.

3.1.2.5 Winter Solstice – December 21

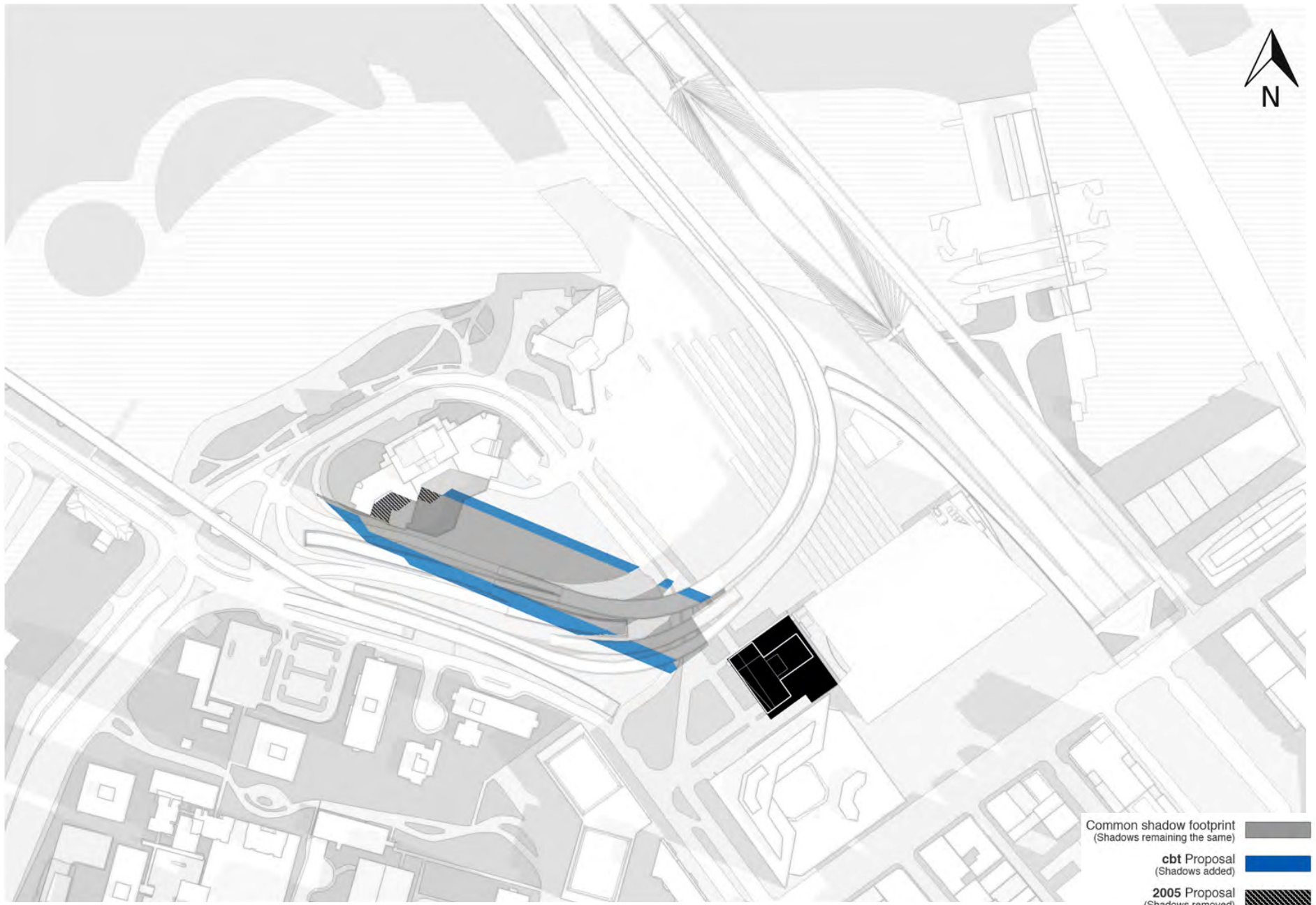
During the winter months, shadows are elongated. At 9:00 am on December 21, the Project casts a long shadow to the northwest. New shadows fall onto and across the Charles River.

At noon, long shadows are cast to the north of the Project. New shadows are generally limited to the Expressway, Spaulding Rehabilitation Hospital parking lot and North Station rail tracks.

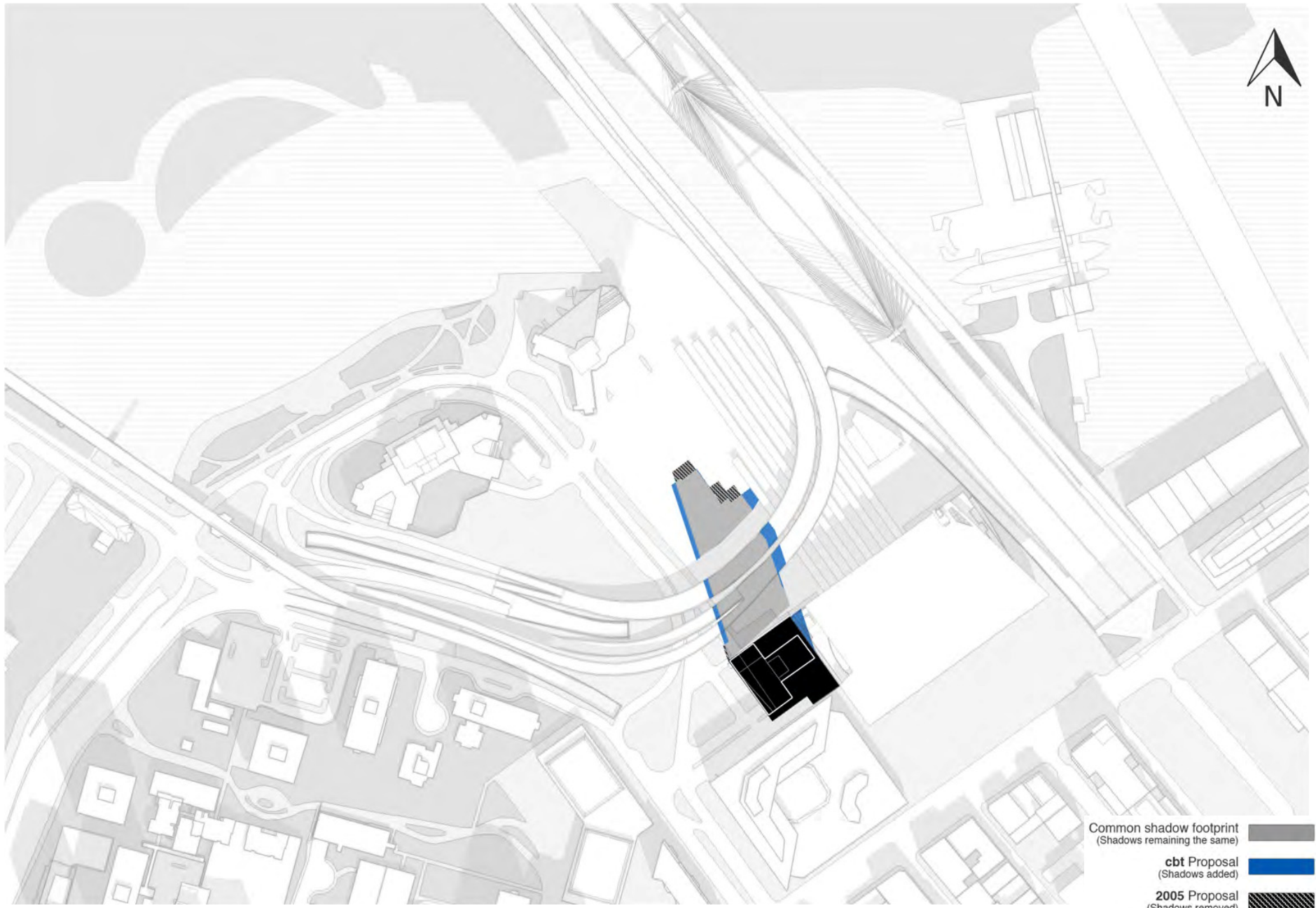
At 3:00 pm, overall new shadows from the Project offer a reduction in shadows from the Previously Approved Project and are cast to the northeast, falling on the TD Garden roof and some of the pedestrian area to the north of the TD Garden. The Project's shadows also extend past the Zakim Bridge and onto Boston's Inner Harbor.

3.1.2.6 Findings and Conclusions

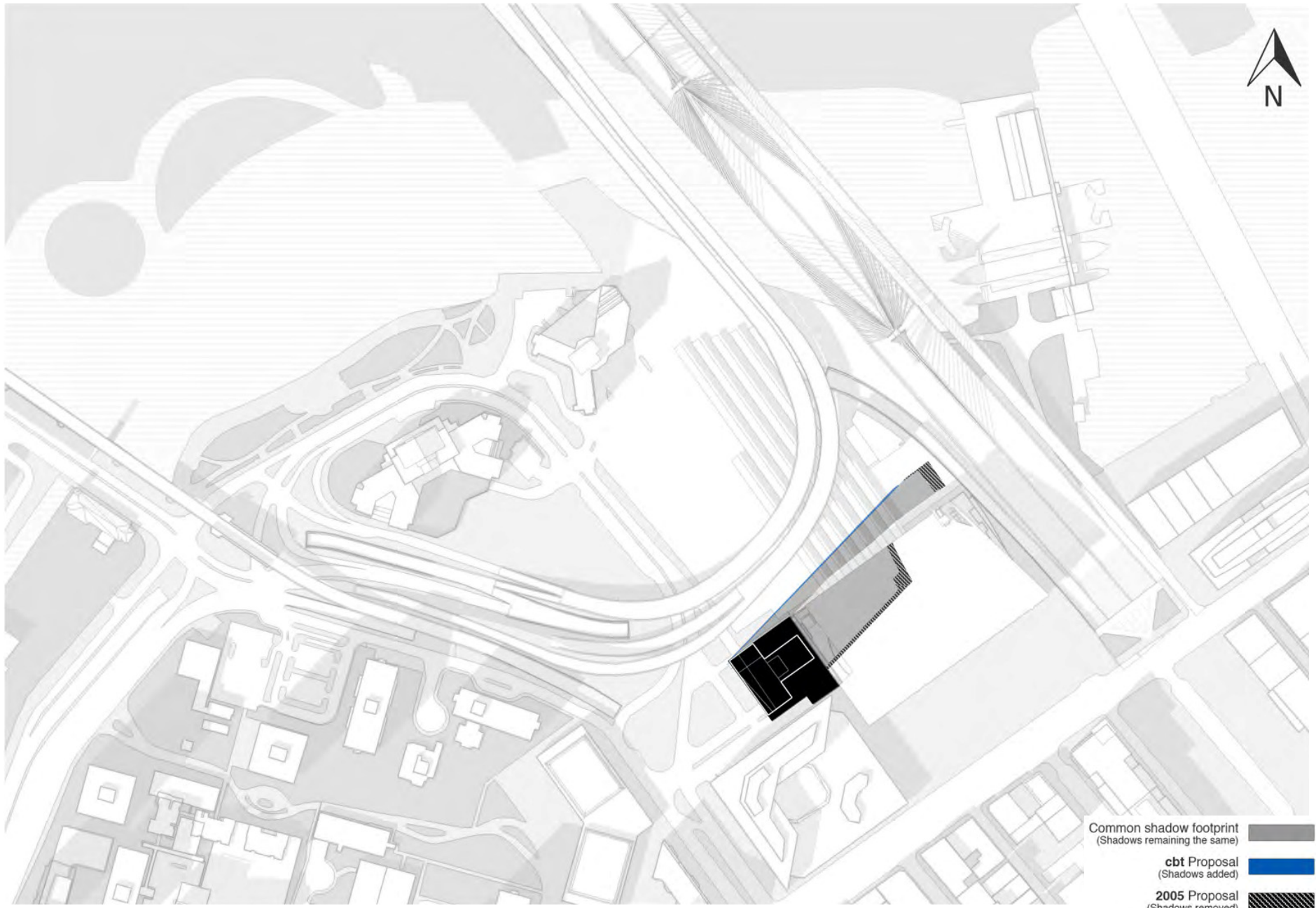
Similar to the Previously Approved Project, shadows from the Project were found to fall primarily onto the rooftops of the buildings surrounding the Project Site. The revised design offers both slight increases and reductions in shadows. Overall, due to the similar height and massing of the Project compared to the Previously Approved Project, no significant changes to the shadow impacts on open space or the surrounding area are anticipated.



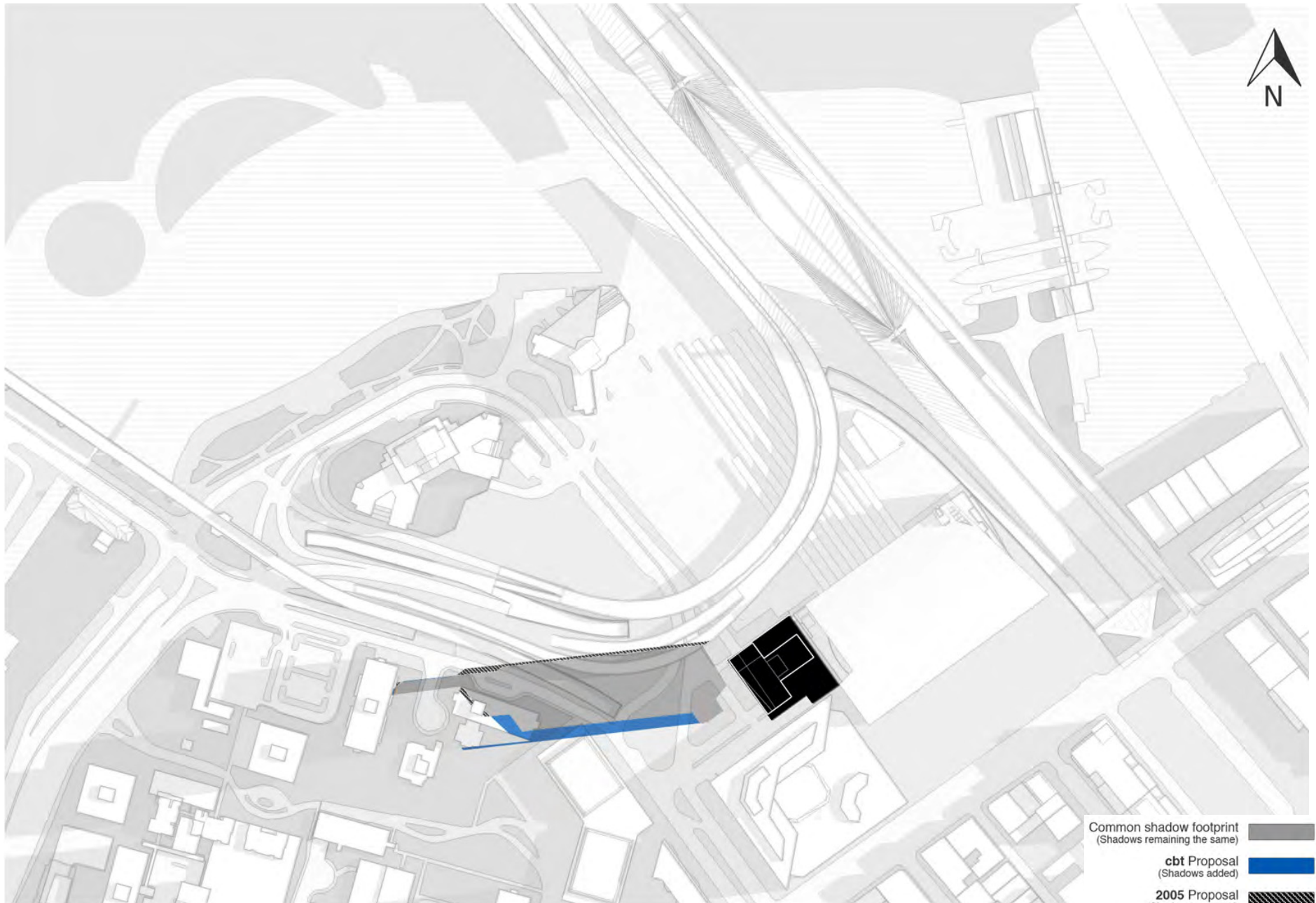
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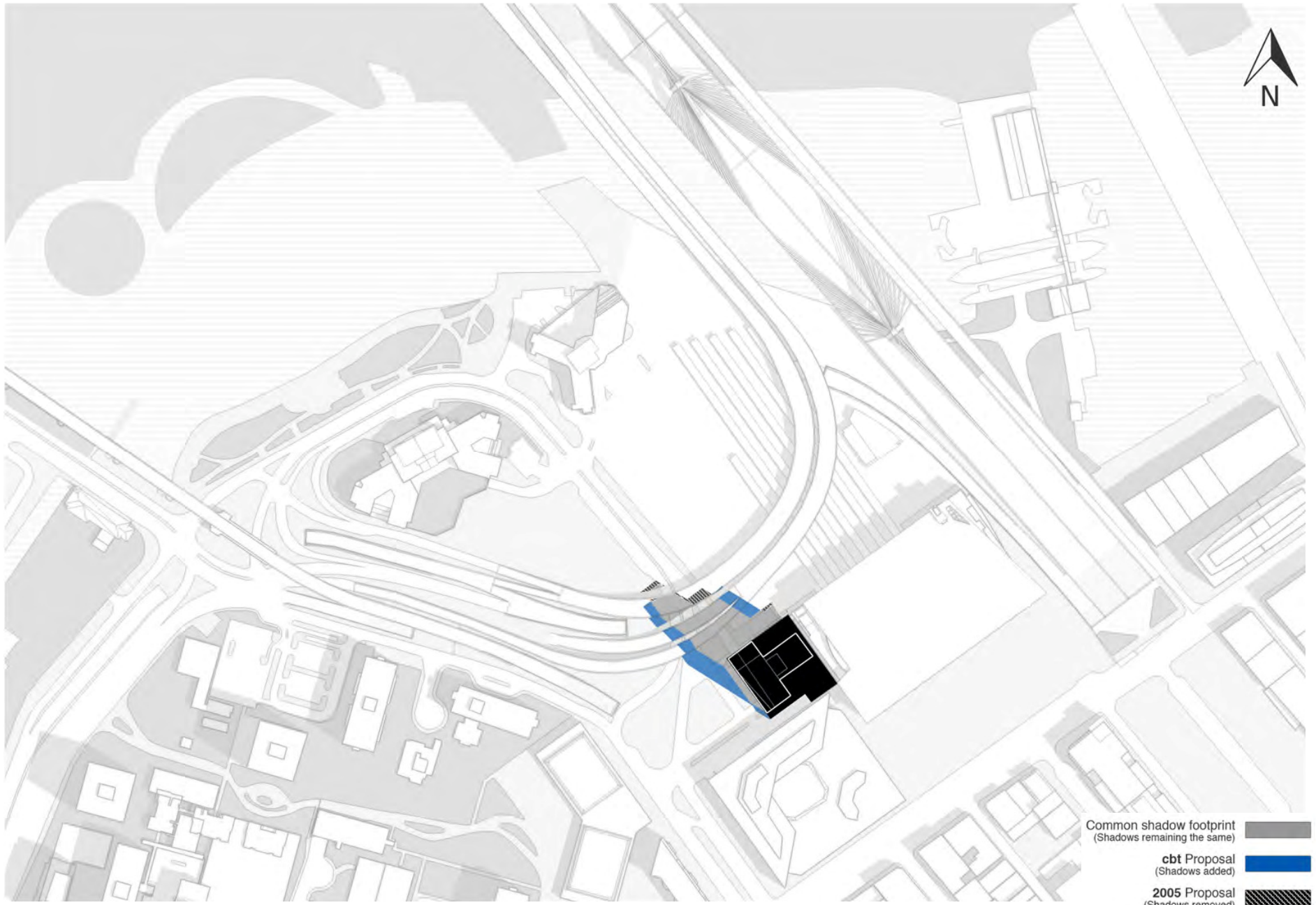
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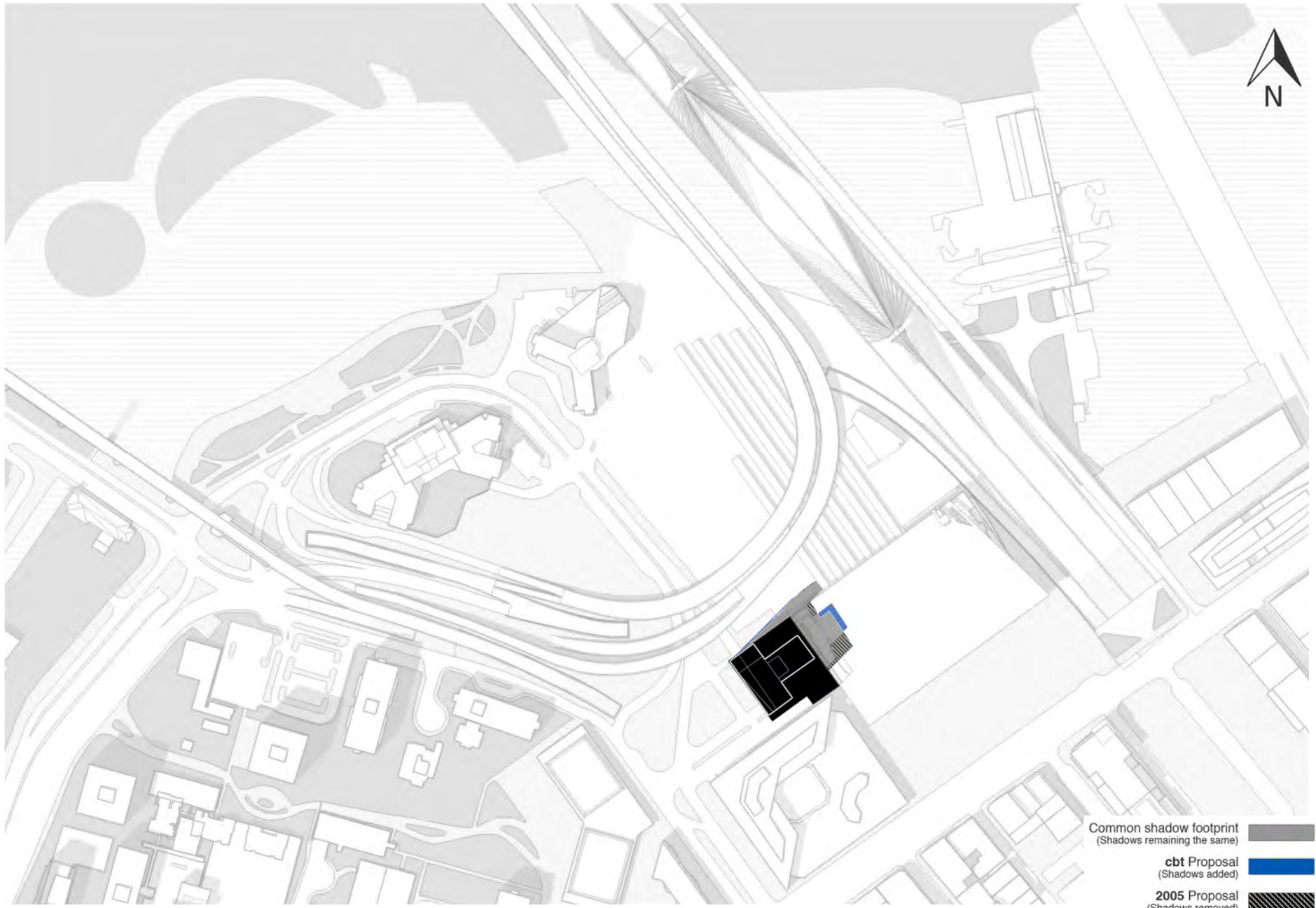
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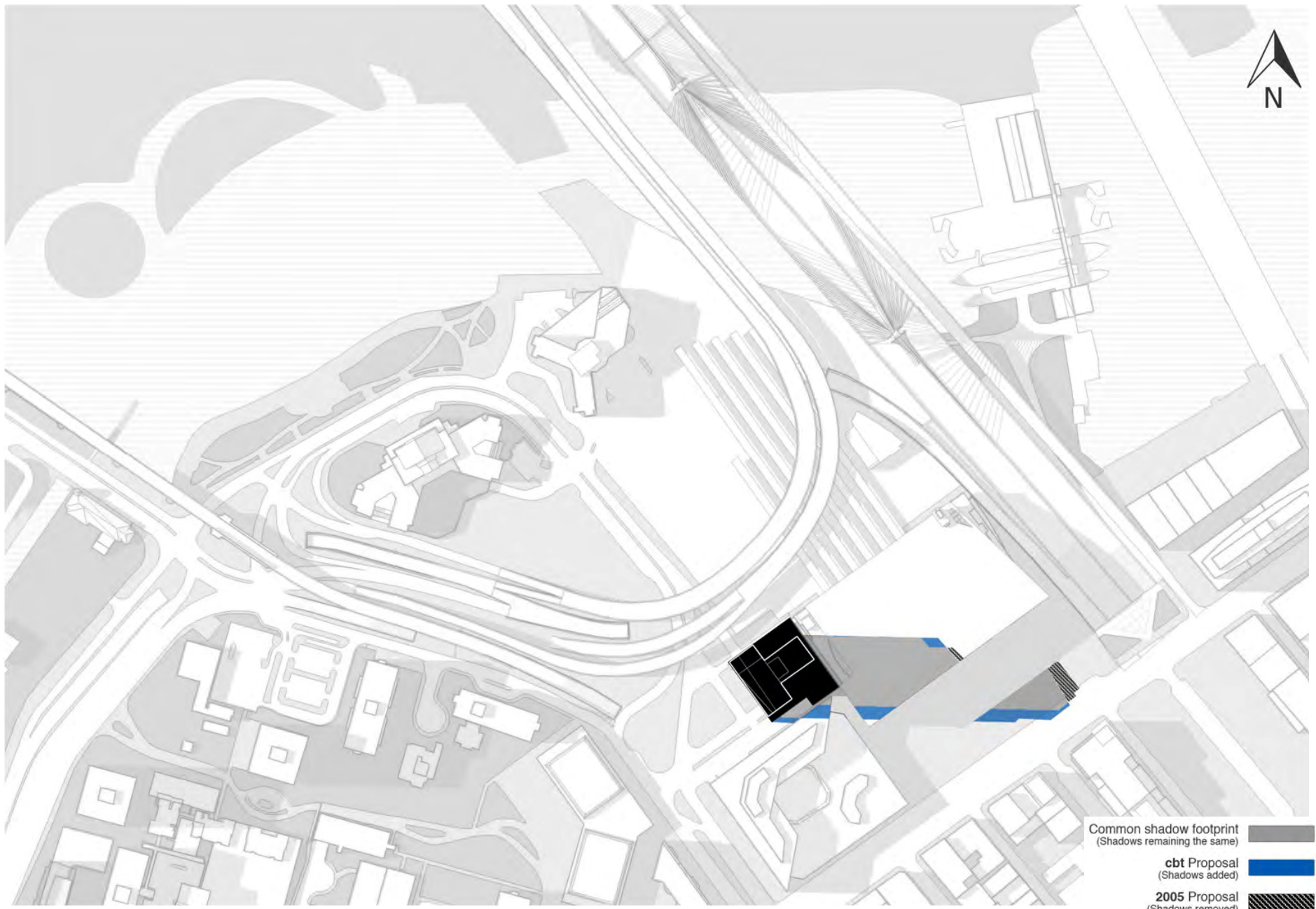
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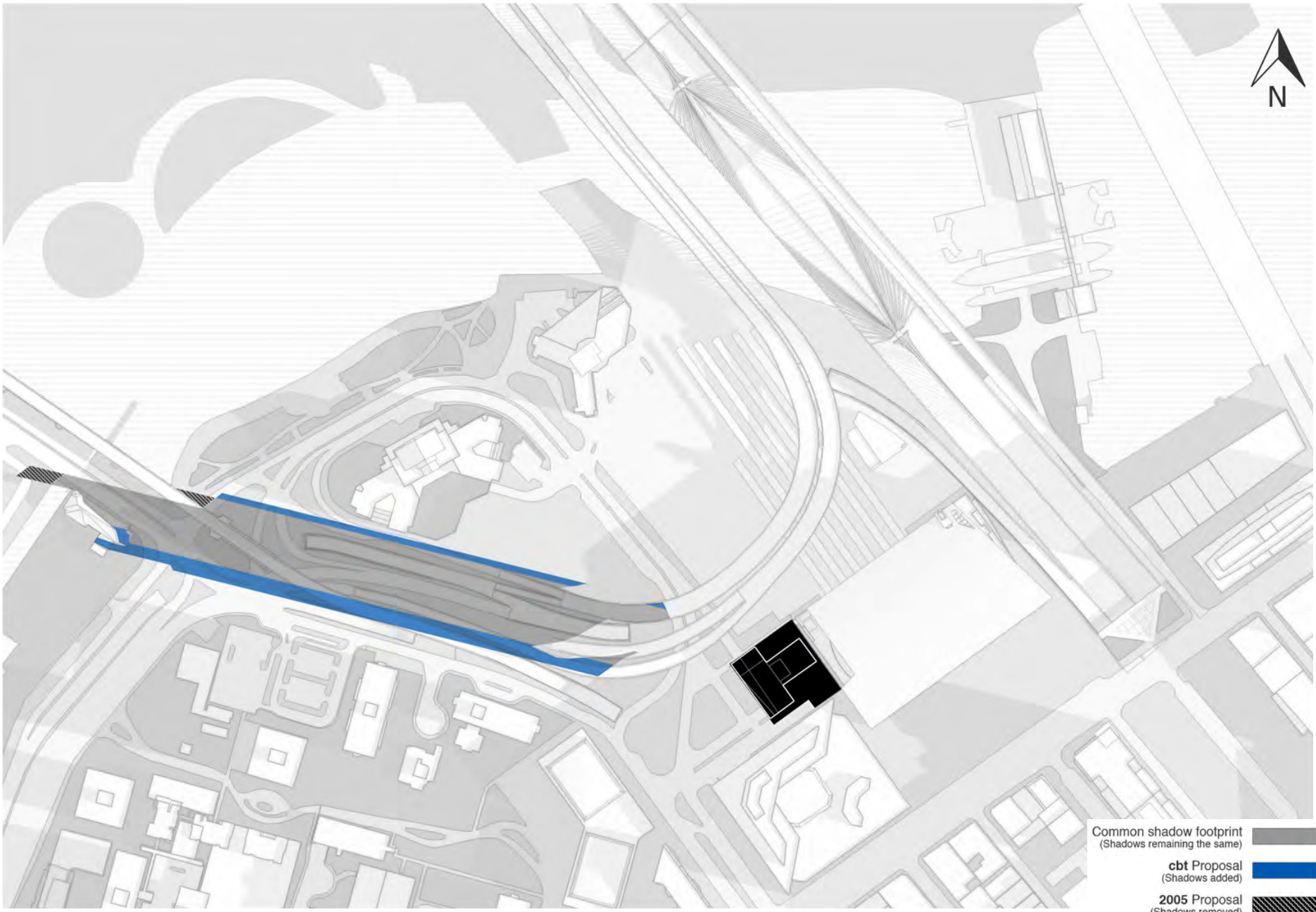
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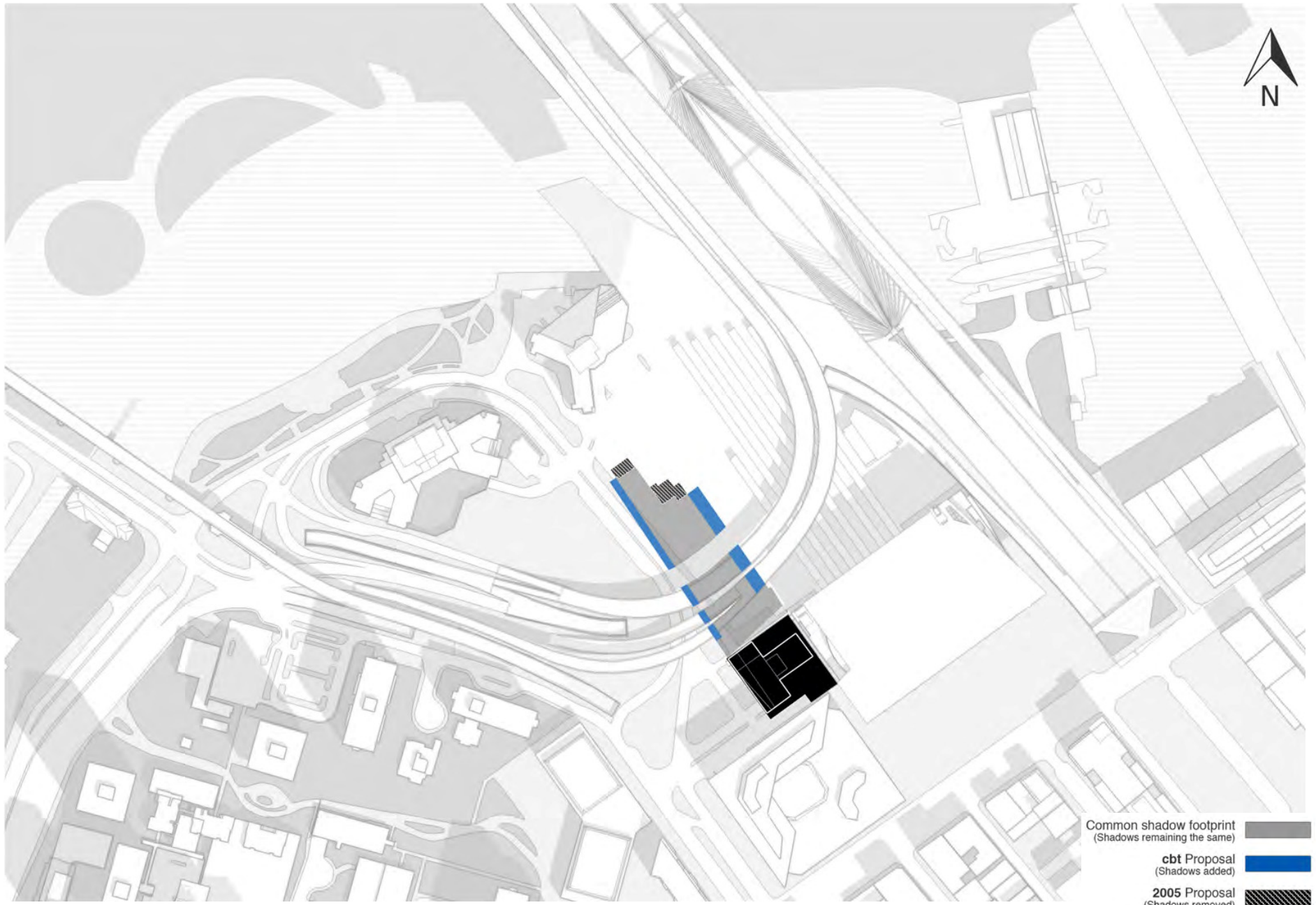
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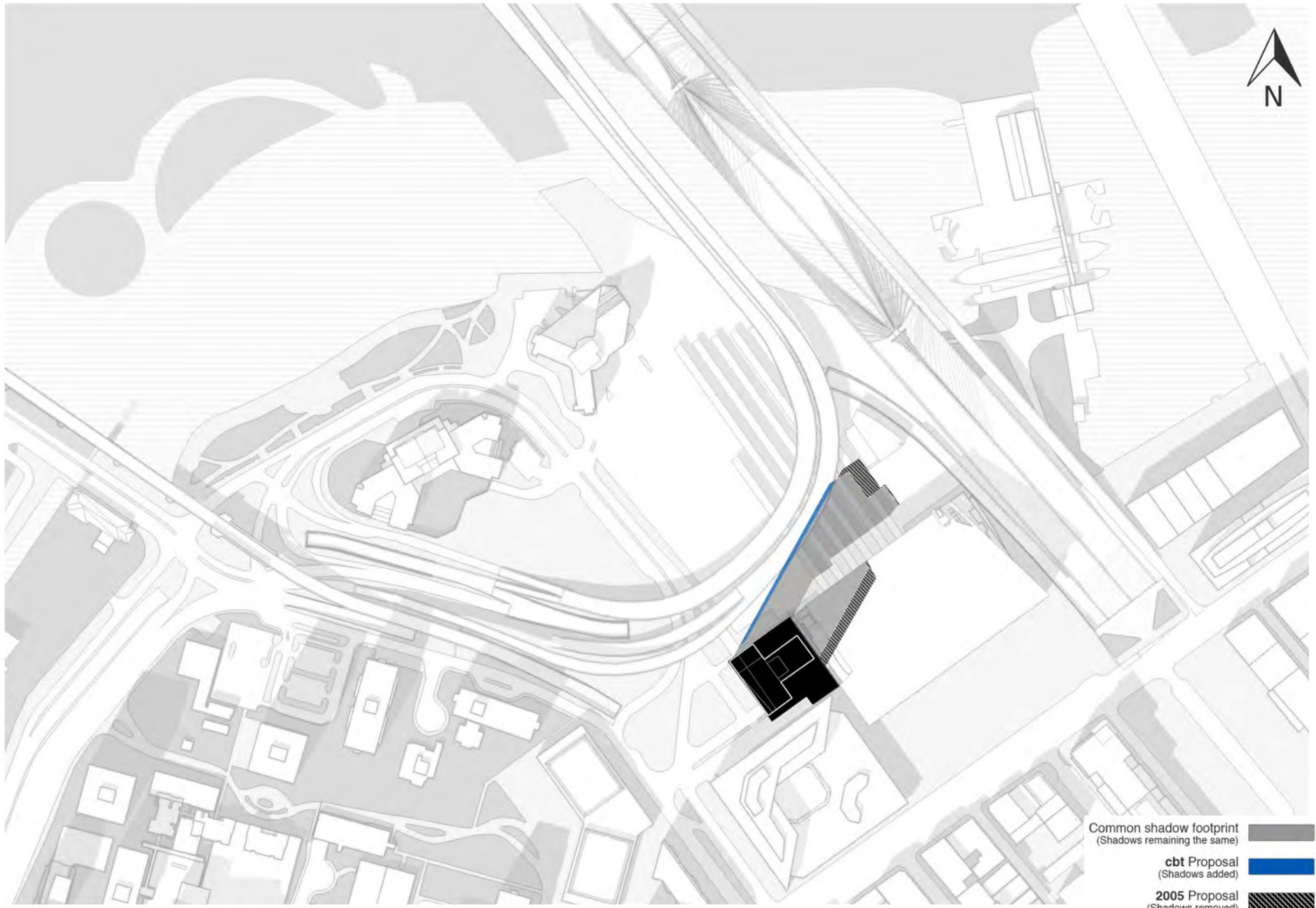
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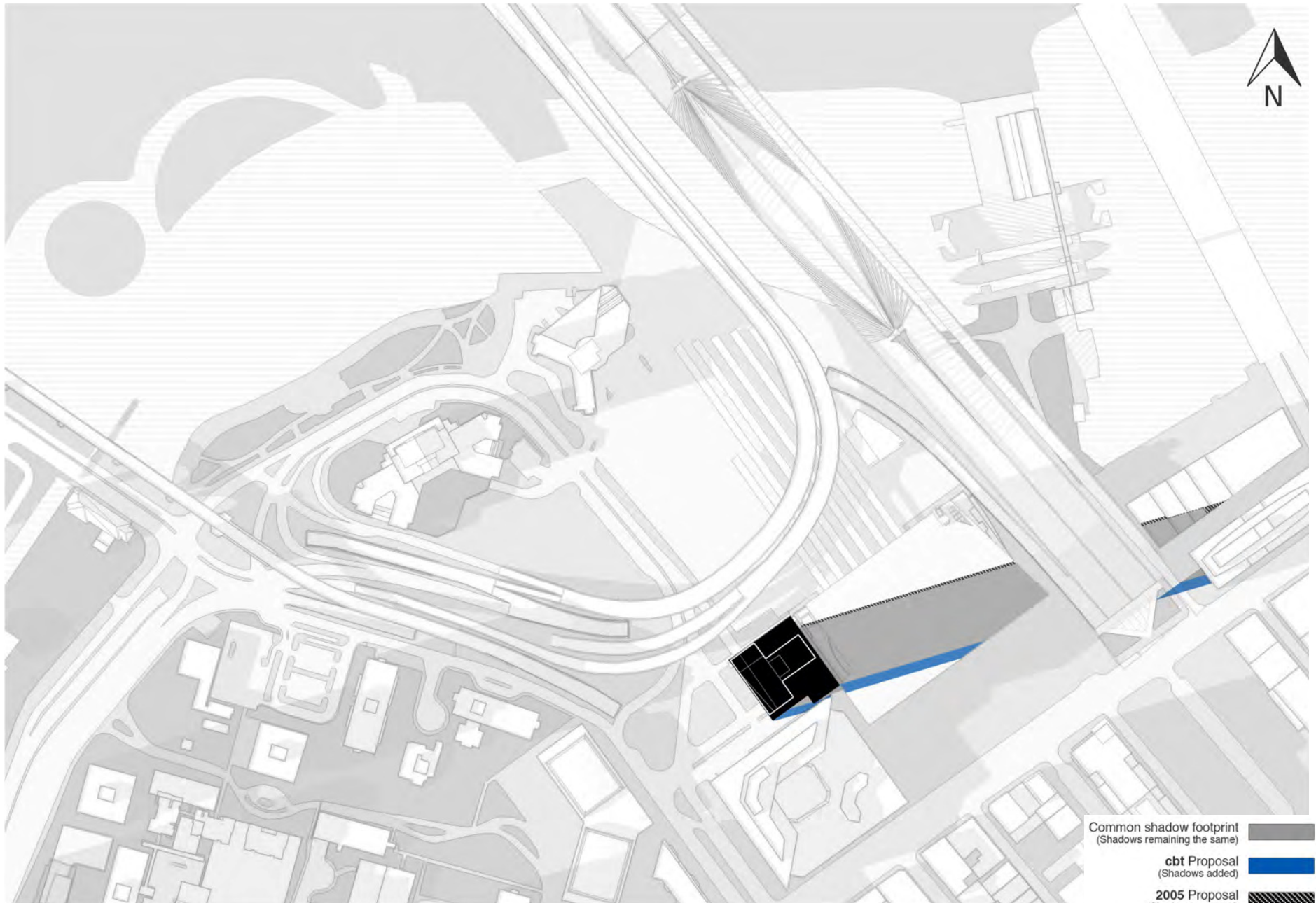
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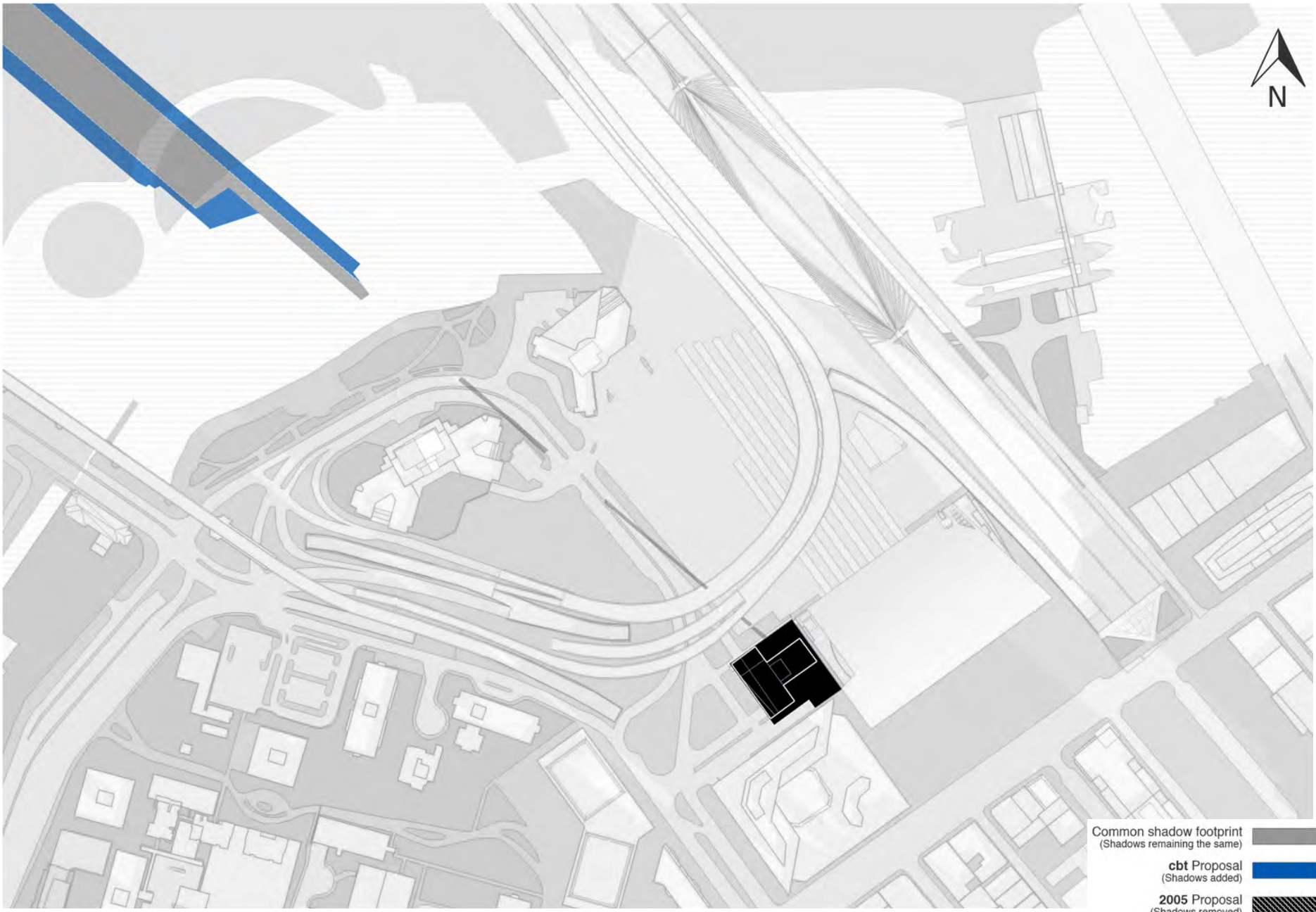
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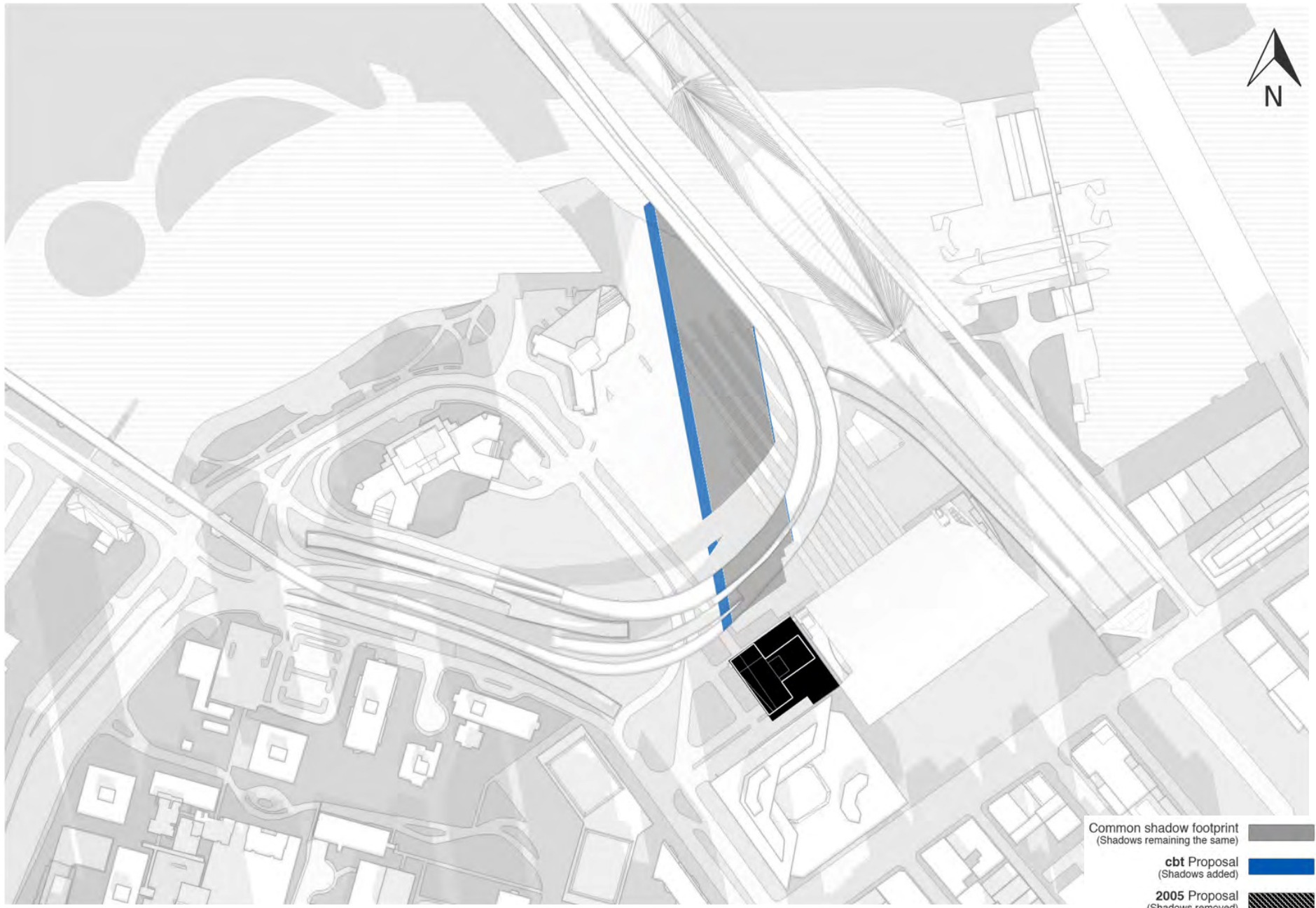
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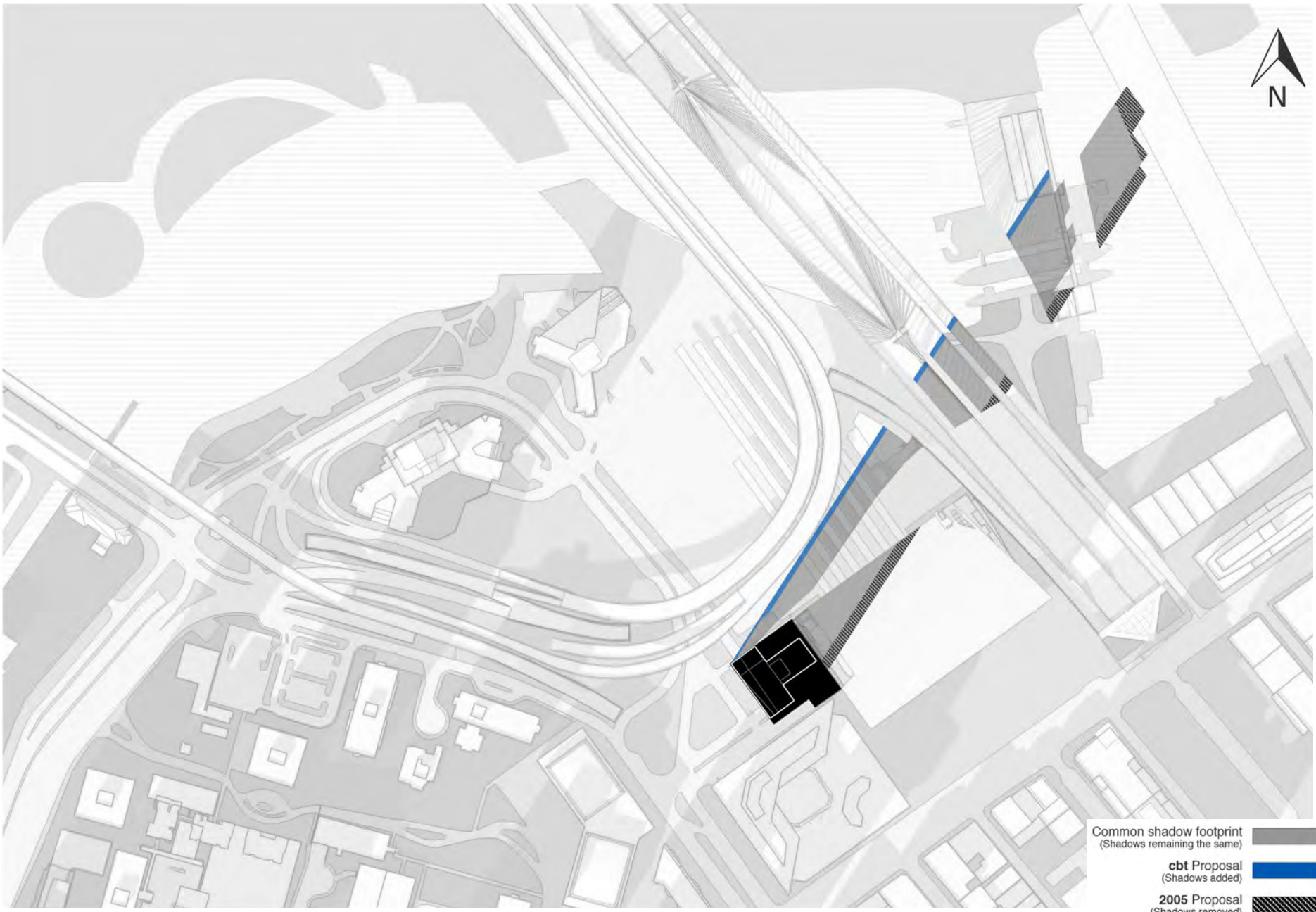
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Nashua Street Residences Boston, Massachusetts



Nashua Street Residences Boston, Massachusetts

3.1.3 Daylight

The DPIR daylight analysis concluded that the Previously Approved Project would create daylight impacts consistent with those already found in the surrounding area. Overall, due to the similar height and massing of the Project as compared to the Previously Approved Project, no significant changes to the daylight impacts are anticipated.

3.1.4 Solar Glare

The Project materials, including the glazing of the windows, will be determined as the design progresses and are subject to BRA design review. The potential glass and glazing under consideration will be similar or less than the Previously Approved Project.

3.1.5 Air Quality and Noise

The locations of exhaust/intake components as well as mechanical equipment have either remained similar to the Previously Approved Project or improved. As such, it is anticipated that impacts from the Project will be similar or less than that of the Previously Approved Project.

3.1.6 Solid Waste and Hazardous Waste

3.1.6.1 Soil and Groundwater Hazardous Material

There has been no change to the hazardous waste conditions from that described in the DPIR for the Previously Approved Project.

3.1.6.2 Solid Waste Generation during Operation

Although residential solid waste from the Project will increase due to the increase in the number of residential units the Proponent will administer a robust recycling program discussed below which will minimize this increase.

3.1.6.3 Recycling During Operation

Avalon Bay Communities, Inc. owns and operates numerous apartment communities and is committed to a maximum recycling effort throughout its properties. Each floor of the residential portion of the Project will have a trash room with integral trash chute and recycling. The Project's recycling will be collected in a central location and picked up on a regular basis. Typical recyclable materials will include cardboard, paper, aluminum cans and plastics.

3.1.6.4 Solid Waste Generation During Construction

The overall solid waste during construction is anticipated to be approximately the same as in the Previously Approved Project.

3.1.6.5 Recycling During Construction

The Proponent is committed to recycling during construction, as discussed in the DPIR for the Previously Approved Project.

3.1.7 Geotechnical/Groundwater

The Project will not alter the geotechnical and groundwater impacts, which will be similar to those discussed in the DPIR for the Previously Approved Project.

3.1.8 Construction Impacts

The construction impacts for the Project are anticipated to be similar to those described in the DPIR for the Previously Approved Project. The Proponent intends to follow the guidelines of the City of Boston and the MassDEP, which direct the evaluation and mitigation of construction impacts.

3.2 Sustainability

Article 37 was adopted in 2007 and, therefore, was not in effect at the time of the approval of the DPIR. To comply with Article 37, the Proponent intends to measure the results of its sustainability initiatives using the framework of the Leadership in Energy and Environmental Design (LEED) rating system. The Project will use the LEED NC 2009 (New Construction) as a rating system to demonstrate compliance with Article 37. The LEED rating system tracks the sustainable features of a project by achieving points in the following categories: Sustainable Sites; Water Efficiency; Energy and Atmosphere; Materials and Resources; Indoor Environmental Quality; and Innovation in Design.

A preliminary LEED checklist is included in Appendix B, and shows the credits the Project anticipates achieving. The checklist will be updated regularly as the design develops and engineering assumptions are substantiated.

Sustainable Sites (SS)

SS Prerequisite 1 - Construction Activity Pollution Prevention

An Erosion and Sedimentation Control Plan will be drafted by the construction manager. The construction manager will ensure that all of the subcontractors adhere to the plan.

SS Credit 1 – Site Selection. The Project Site is currently completely impervious and is located in an urban area. The Site is not prime farmland, is not habitat for species on federal or state threatened or endangered lists, not public parkland, and not located within 100 feet of wetlands.

SS Credit 2 – Development Density/Community Connectivity

The Site is located adjacent to the Bulfinch Triangle and West End areas of Boston which are densely developed. The Project Site (when the Project is constructed) and its surroundings include more than 60,000 sf per acre.

SS Credit 4.1 – Alternate Transportation, Public Transportation

The Site is located adjacent to North Station, which serves the MBTA Green and Orange lines, as well as commuter rail.

SS Credit 4.2 – Alternate Transportation, Bike Storage/Changing Room

The development will include secure bicycle storage for 503 bicycles, at a ratio of one space per residential unit.

SS Credit 4.3 – Alternate Transportation, Low Emitting and Fuel Efficient Vehicles

A portion of the parking spaces will be reserved for low emitting and fuel efficient vehicles. This will either be done by strategically locating the spaces or by allowing the spaces at a discounted rate for a minimum of two years. The Project will also provide spaces for 503 bicycles.

SS Credit 4.4 – Alternate Transportation, Parking Capacity

The development includes a number of parking spaces consistent with BTD guidelines for residential use. The development will include a comprehensive transportation demand management program to minimize the number of single-occupancy vehicle trips related to the Site.

Credit 6.1 – Stormwater Design, Quantity Control

The development may implement a stormwater management plan that results in a 25% decrease in the volume of stormwater runoff from the two-year, 24-hour design storm.

Credit 6.2 – Stormwater Design, Quality Control

The development may consider treating captured stormwater prior to release into the municipal storm sewer system.

Credit 7.1 – Heat Island Effect, NonRoof

The parking will be located within the building, and the rooftop of the building will have materials that meet or exceed the SRI value limits.

SS Credit 7.2 – Heat Island Effect, Roof

As the design progresses, it will be determined if 75% of the roof area can include roofing materials that meet or exceed the SRI value limits.

Water Efficiency (WE)

WE Prerequisite 1 – Water Use Reduction

Through the use of low flow and high efficiency plumbing fixtures, the development will implement water use reduction strategies that use 20% less water than the water use baseline calculated for the building (not including irrigation) after meeting Energy Policy Act of 1992 fixture performance requirements.

WE Credit 3 – Water Use Reduction

The development may include additional water saving measures to further reduce the use of potable water.

Energy and Atmosphere (EA)

EA Prerequisite 1 – Fundamental Building Systems Commissioning

A third party commissioning agent (CxA) will be engaged by the Proponent for purposes of providing basic commissioning services for the building energy related systems, including HVAC & R, lighting and domestic hot water systems. The CxA will verify the building systems are installed, calibrated and performing to the building owner's requirements.

EA Prerequisite 2 – Minimum Energy Performance

The design will incorporate a highly efficient mechanical system design in order to comply with the stringent Stretch Code provisions of the Massachusetts Building Code as well as the LEED requirements.

EA Prerequisite 3 – CFC Reduction in HVAC & R Equipment

The specifications for refrigerants used in the building HVAC & R systems will not permit the use of chlorofluorocarbon (CFC) based refrigerants.

EA Credit 1 – Optimize Energy Performance

The building will be subject to the Stretch Code provision of the Massachusetts Building Code, which requires a 20% improvement over a baseline building performance rating. The team will develop a whole building energy model to demonstrate the expected performance rating of the designed building systems. As the design progresses, it may achieve an even greater level of performance.

EA Credit 3 – Enhanced Commissioning

The CxA may be engaged during the design process for enhanced commissioning. The CxA's role would include reviewing the owner's building requirements, creating, distributing and implementing a commissioning plan, and performing a design review of the design development and construction documents.

EA Credit 4 – Enhanced Refrigerant Management

The HVAC design will include equipment with refrigerants that minimize the emission of compounds that contribute to ozone depletion and global climate change to the limits required by LEED.

EA Credit 5 - Measurement and Verification

A measurement and verification plan may be developed and implemented for the building.

Materials and Resources (MR)

MR Prerequisite 1 – Storage and Collection of Recyclables

Storage of collected recyclables will be accommodated within the building.

MR Credit 2 – Construction Waste Management

The general contractor will provide a construction waste management plan that will ensure that 50% of all waste and debris is directed to be recycled.

MR Credit 4 – Recycled Content

The development specifications will specify materials to include pre- and or post-consumer recycled content. It is anticipated that the development will include 20% recycled-content materials based on overall materials costs.

MR Credit 5 – Regional Materials

The development specifications may indicate materials to be used that are extracted, harvested, recovered and manufactured within a 500 mile radius of the Site.

MR Credit 6 – Rapidly Renewable Materials

The development may specify rapidly renewable building materials and products for 2.5% of the total value of all building materials and products used.

MR Credit 7 – Certified Wood

The development may use a minimum of 50% FSC certified wood for wood permanently installed inside the building envelope.

Indoor Environmental Air Quality (EQ)

EQ Prerequisite 1 – Minimum Indoor Air Quality (IAQ) Performance

The building mechanical systems will be designed to meet or exceed the requirements of ASHRAE Standard 61.1-2007 sections 4 through 7 and/or applicable building codes.

EQ Prerequisite 2 – Environmental Tobacco Smoke

All common areas in the building will be No Smoking areas.

EQ Credit 1 – Outdoor Air Delivery Monitoring

Demand control ventilation may be incorporated in the HVAC design. CO₂ sensors may be installed to monitor the outdoor air quality throughout the building.

EQ Credit 2 – Increased Ventilation

The development may incorporate measures that meet the requirements of providing additional outdoor air ventilation to improving indoor air quality.

EQ Credit 3.1 – Construction IAQ Management Plan, During Construction

The construction manager will develop and implement an IAQ management plan for the construction phases of the development. This will include the proper storage of absorptive materials to prevent moisture damage. Air handlers used during construction will have MERV 8 filtration media that will be replaced before occupancy. The SMACNA sheet metal guides concerning IAQ will be strictly adhered to.

EQ Credit 4 – Low Emitting Materials

The architect will specify all adhesives, sealants, paints, coatings, flooring systems, and composite wood in such a manner that the LEED requirements are met with regard to off-gassing, VOC contents, formaldehydes, etc.

EQ Credit 5 – Indoor Chemical and Pollutant Source Control

The design team will include measures to minimize and control the entry of pollutants into the building.

EQ Credit 6.1 – Controllability of Systems, Lighting

It is the intent of the design to provide individual lighting controls for regularly occupied spaces and all units. The controls may include vacancy/occupancy sensors and day light dimming controls. Multi-occupant user spaces such as lobbies/club rooms will have multi-level lighting controls for modifying light levels as necessary for the various uses.

EQ Credit 6.2 – Controllability of Systems, Thermal Comfort

It is the intent of the design to provide individual temperature controls for regularly occupied spaces.

EQ Credit 7.1 – Thermal Comfort, Design

The development will design HVAC systems and the building envelope to meet the requirements of ASHRAE Standard 55-2004.

EQ Credit 7.2 – Thermal Comfort, Verification

The team may evaluate the feasibility of this credit after building occupation.

EQ Credit 8.2 – Daylight and Views, Views

It is the intent of the design to locate regularly occupied spaces along the perimeter of the floor plate with ample vision glass to achieve views for 90% of the areas.

Innovation and Design Process (ID)

ID Credit 1.1 – Development Density and Community Connectivity, Exemplary Performance

Option 1 of Credit 2 requires that a new building or renovation project on a previously developed site and in a community with a minimum density of 60,000 sf per acre. An exemplary performance credit can be achieved for a new building or renovation project on a previously developed site and in a community with a minimum density of 120,000 sf per acre. The site and the surrounding area have a density greater than 120,000 sf per acre.

ID Credit 1.2 – Alternative Transportation-Public Transportation Access, Exemplary Performance

The Site is located adjacent to North Station which serves the MBTA Green and Orange lines, as well as commuter rail with a frequency of service resulting in over 200 transit rides per day.

ID Credit 1.3 – Heat Island Effect-Nonroof, Exemplary Performance

The parking will be located within the building.

ID Credit 2 LEED Accredited Professional

A LEED accredited professional will be part of the development team.

Regional Priority Credits

Regional Priority Credits (RPC) are established LEED credits designated by the USGBC to have priority for a particular area of the country. When a project team achieves one of the designated RPCs, an additional credit is awarded to the Project. The development anticipates one RPC: SSc7.1-Heat Island Effect.

3.3 Historic Resources

3.3.1 Status of Review with Historical Agencies

Because the Project requires State permits, it is subject to review by the Massachusetts Historical Commission, (MHC) in accordance with M.G.L., Chapter 9, Sec. 26-27c. as amended by Chapter 254 of the Acts of 1988 (950 CMR 71.00). In connection with the Previously Approved Project, a copy of the Environmental Notification Form subject to MEPA was provided to MHC, which also serves as a Project Notification Form under 950 CMR 71.00 initiating the Chapter 254 review process. By letter dated May 18, 2004, MHC requested that the Proponent evaluate the visual effect on historic resources, and requested an opportunity to review plans.

A copy of the NPC to be filed with MEPA will be provided to MHC, and the Proponent will consult with MHC as required under the regulatory review process.

3.3.2 *Impacts to Historic Resources*

3.3.2.1 **Design and Visual Impacts**

The revisions to the design of the Project are minor as they relate to historic resources identified in the DPIR and result in no substantive change to the visual impacts to historic resources in the vicinity of the Project Site. The massing of the revised Project has been modified at its base and within the tower component of the building. The height remains the same as that of the Previously Approved Project to the top of the last occupiable floor.

3.3.2.2 **Shadow Impacts**

The limited modifications to the Project will result in no substantive new shadow impacts to nearby historic properties and shadow impacts are anticipated to be consistent with that of the Previously Approved Project. See the discussion of shadow studies in Section 3.1.2 above.

Chapter 4.0

Urban Design

4.0 URBAN DESIGN

4.1 Physical Description

The Previously Approved Project was a residential building containing 363 units constructed above a five-level, above grade parking structure with 270 parking spaces and a ground floor comprised of lobby, public, and retail space. The previous building design was 37 stories tall, reaching to a height of 415 feet to the roof of the highest occupied floor.

The program for the Project is a multi-family residential building containing 503 units constructed above a 4-level, above-grade parking structure with approximately 219 parking spaces and a ground floor comprised of lobby, public, and retail space. The building is 38 stories tall, reaching to a height of 415 feet to the roof of the highest occupied floor.

The new structure, similar to the Previously Approved Project, is to be built upon the structural grid of the existing below-grade parking garage caissons installed throughout the Site around the network of utilities and MBTA tunnels. These foundation elements provide the landing points with the structural capacity to support the proposed tower and parking structure. The Project differs from the Previously Approved Project in that it closely aligns the tower massing with the existing below-grade foundation elements so that an entire floor of structural transfers included in the 2005 submission is eliminated and thereby facilitating an extra floor of residential within the same building height.

This direct integration with the existing structure allow for a more efficient building structure and the Project's ground floor is organized around an active and dynamic pedestrian-oriented ground floor that includes a residential lobby on Nashua Street and introduces a 2-story open-air public arcade lined with retail space and amenities which serves as a public pedestrian connector for commuters, neighborhood residents, and patrons attending events at the TD Garden. In comparison to the Previously Approved Project, the Project has increased the area of the public arcade and extended the arcade westward through the ground floor to provide a more convenient and direct connection with the proposed open space along Nashua Street and to the West End beyond. Also included on the ground floor are residential amenity spaces, supporting service and back-of house spaces, as well as areas to accommodate the new and existing parking garage ramp entrances.

The second floor of the Project includes residential amenity spaces such as a leasing area and lounge, resident conference center, and an extensive fitness center along the interior façade of the arcade.

The next four levels form the podium massing level of the Project and include above-grade resident parking and bike storage that contains 219 parking spaces total and storage area to accommodate 503 bicycles.

At the 7th floor, the Project massing steps back from the podium to form the typical residential floor massing that stacks up to the 34th floor. Each residential floor will include a large range of unit types including efficient studios, one-bedroom, two-bedroom, and three-bedroom unit plans that are wrapped around an efficient building core.

On the 35th floor the building massing is further set back and includes an enclosed sky pavilion amenity space with an outdoor roof terrace for residents' use. The residential floor configuration for these levels includes one-, two-, and three-bedroom unit types and this residential floor massing terminates the top of the building with a sculpted mechanical penthouse screenwall. Figures 4-1 through 4-18 present floor plans, site plans, sections, elevations, and perspectives of the Project.

4.2 Building Height, Mass, and Scale

The Project's massing strategy is organized as a 32-story residential tower set atop a 6-story podium that is composed by the existing foundation structural grid of the below-grade garage that the Project is set on. By maximizing the footprint of the building, the podium incorporates four floors of resident parking, a new public pedestrian arcade, residential lobby and amenity spaces, as well accommodating the existing TD Garden service ramp and infrastructure.

While the podium level massing is similar to the Previously Approved Project, the Project's residential tower massing is expressed as a T-shaped floor plate that maximizes unit views, maintains an efficient building core layout, and is directly integrated into the existing below-grade parking garage structural system. The resulting form of the residential tower creates elegant and slender building proportions from various viewpoints that visually break-down the Project's scale to appear as a collection of forms on the horizon. The top of the tower is sculpted in metal panel and precast to create a distinctive form on the skyline and along with the Zakim Bridge, serving as an iconic gateway to the City of Boston from the north.

The massing elements of the residential tower are delineated by vertical glass reveals and recesses in the forms that further accentuate these massing elements as separate forms. The residential tower facades are composed primarily of punched windows in an articulated precast skin with glazed multi-story 'oculi' elements set within the precast facade. The multi-story glass 'oculi' elements introduce an intermediate scale to the building façades that relate to the larger scale urban context surrounding the Project and create notable and distinctive elements from distant views. The prominent building corner is highlighted with a continuous vertical glazing façade element creating a beacon for the Project that extends down through the podium level to integrate the tower façade language with the podium and street level elements.

The podium level facades are clad in primarily precast and metal panel with the most prominent podium façade above the Project entrance clad in a varying metal panel and screen system creating a feature element that relates both the tower facades and announces the entry to the building.

At the two base floor levels of the Project, a large metal panel frame organizes the multiple pedestrian and vehicular entrances along Nashua Street. Set within the frame is a 2-story glass curtain wall system along the residential lobby that reinforces the transparency and visibility of the lobby entrance while also creating an inviting and safe pedestrian atmosphere along the street front.

4.3 Ground Floor and Public Realm Design

The Project Site enjoys a unique setting at the intersection of pedestrian, commuter, and vehicular circulation within the West End and serves as a larger pedestrian connection between the greater West End, Bulfinch Triangle, and North End neighborhoods of Boston. The Site's adjacency to North Station and the TD Garden event space encourages thousands of daily pedestrians to pass through the Site. This created a natural need to organize and channel the pedestrian flow through the Site to strengthen this significant pedestrian connection between neighborhoods. To accentuate this connection, the Project's ground floor plan incorporates a 2-story open-air public pedestrian arcade that will serve as a grand thoroughfare connecting Nashua Street to Causeway Street. The arcade will be able to accommodate large scale pedestrian traffic and is lined with retail and amenity spaces creating a lively and vibrant atmosphere both at game time as well as at commuting times. During TD Garden events, the arcade and associated retail operable storefronts will function not only as a prime circulation route, but also as a gathering space for pre-event activities.

The arcade's architectural treatment includes glazed curtain wall facades that bring light and activity from the adjacent retail and amenity spaces into the arcade. In addition, the arcade will include creative ceiling treatments, dynamic lighting, and potential multi-media opportunities that will contribute to an unique inviting and active atmosphere.

The arcade entrance on Nashua Street is also located directly across from an open space parcel that is owned by the MBTA and bounded by Nashua Street and Lomasney Way. Pending discussions with the MBTA, the Project proposes to landscape this open space to integrate it into the greater urban sequence between neighborhoods as a means to complete the pedestrian connection through the Site and to the West End. This open space design has the potential to create an inviting resting point along this urban route, organize and improve pedestrian traffic flow crossing over multiple streets, and to create an inviting "front yard" to the residential project. This direct arcade connection through the building to the open space is an improvement from the Previously Approved Project that will greatly enhance the pedestrian experience for residents of the West End as well as commuters and event-goers coming from the Site.

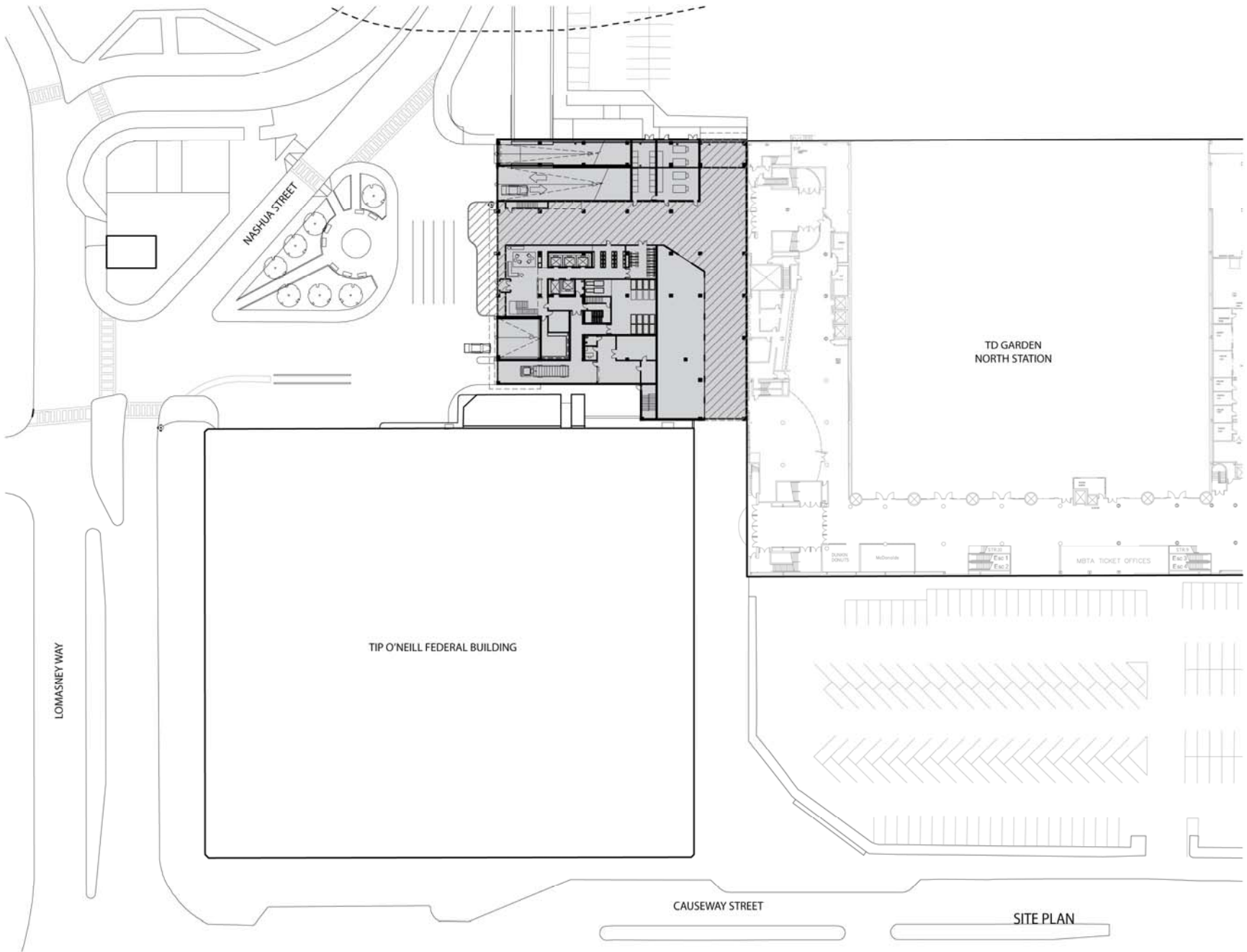
Also, as part of the overall Site work, the Project proposes slight curb modifications to the surrounding roadways to improve traffic flow allowing for more convenient and safe shuttle bus drop-off and pick up and to enhance the pedestrian connection to the Project.



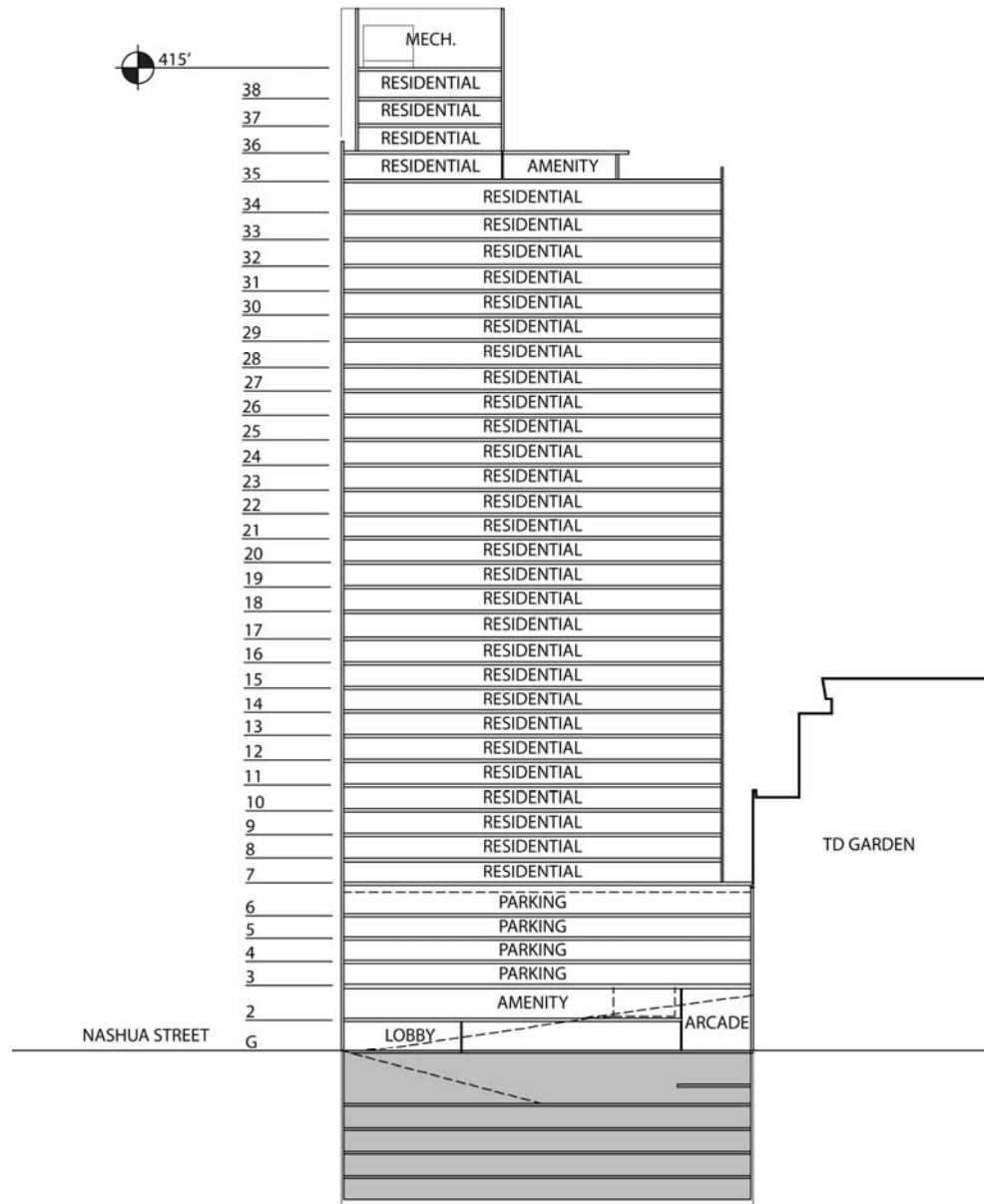
Nashua Street Residences Boston, Massachusetts



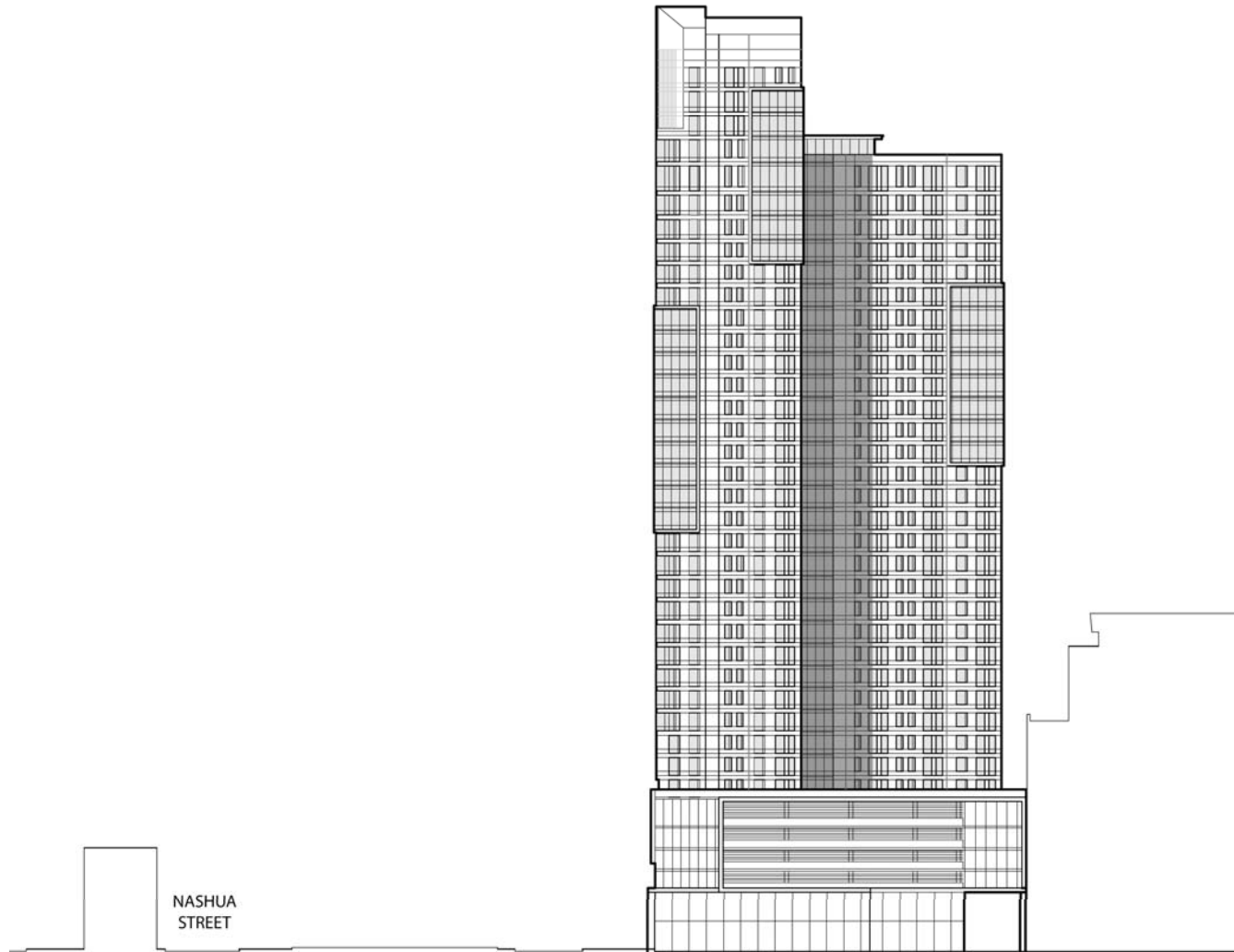
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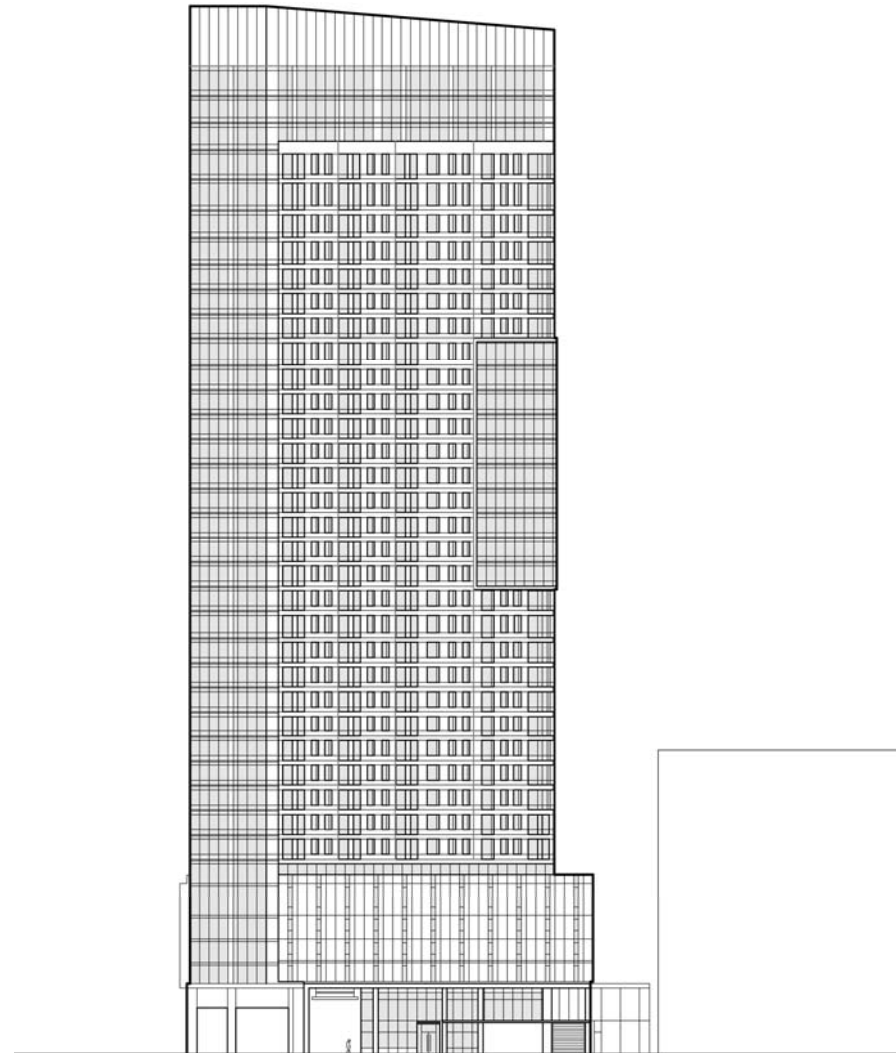
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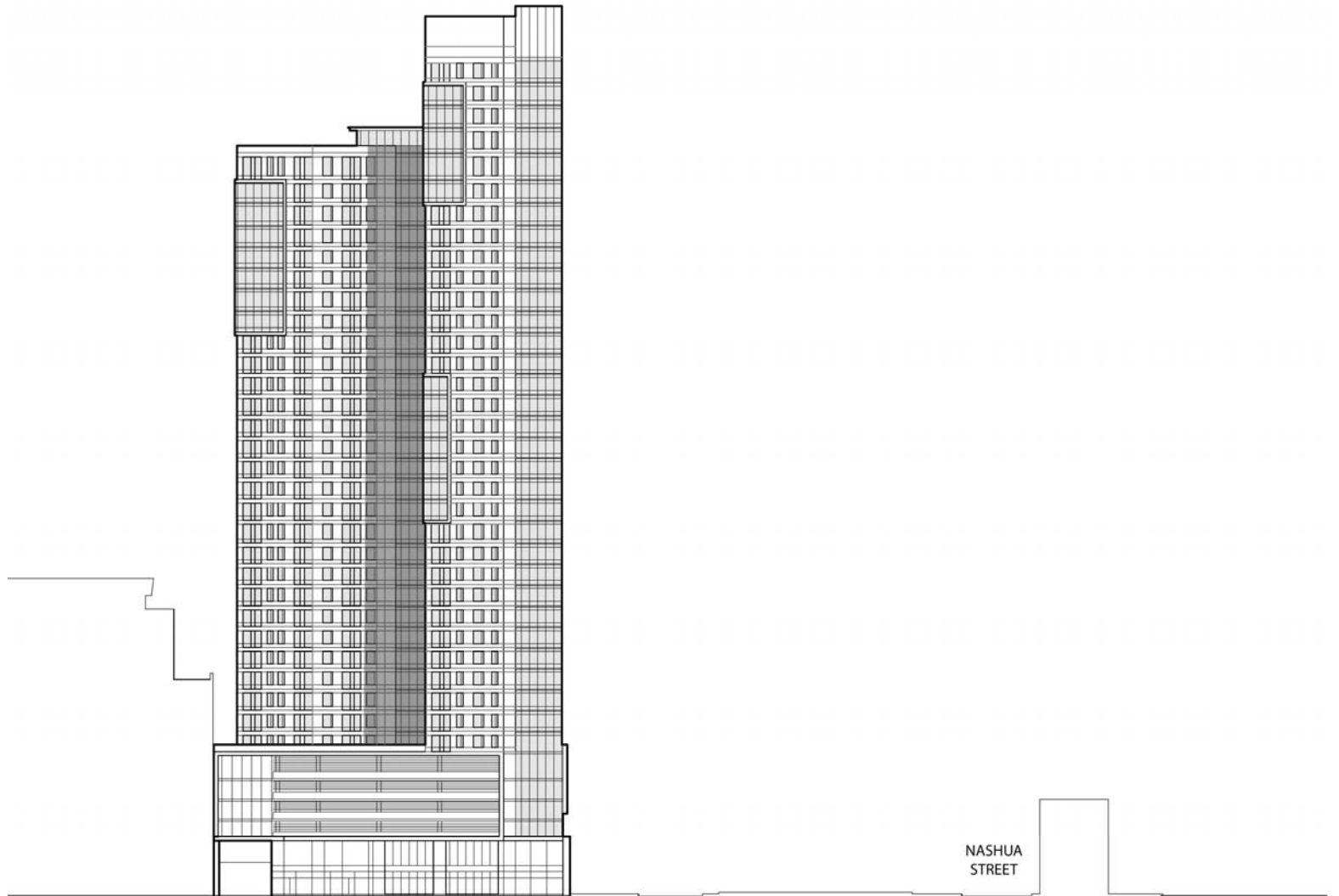
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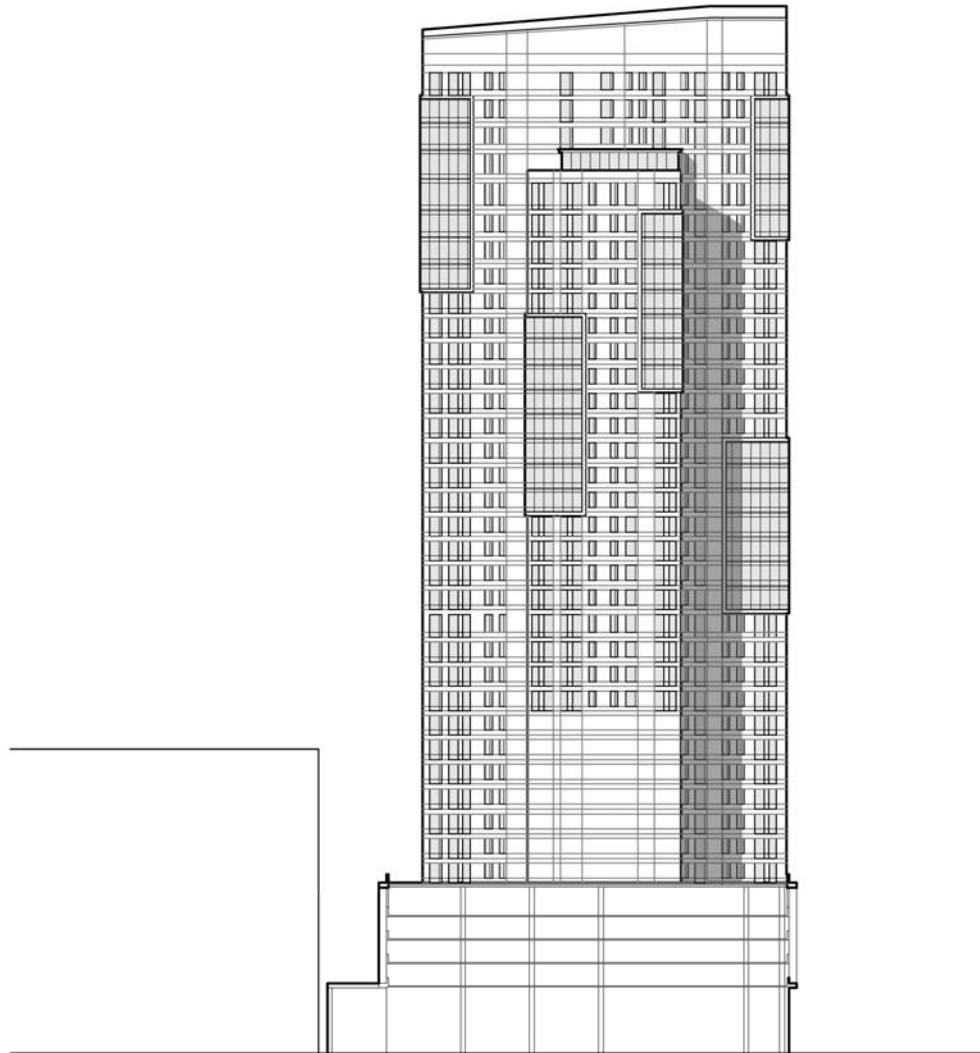
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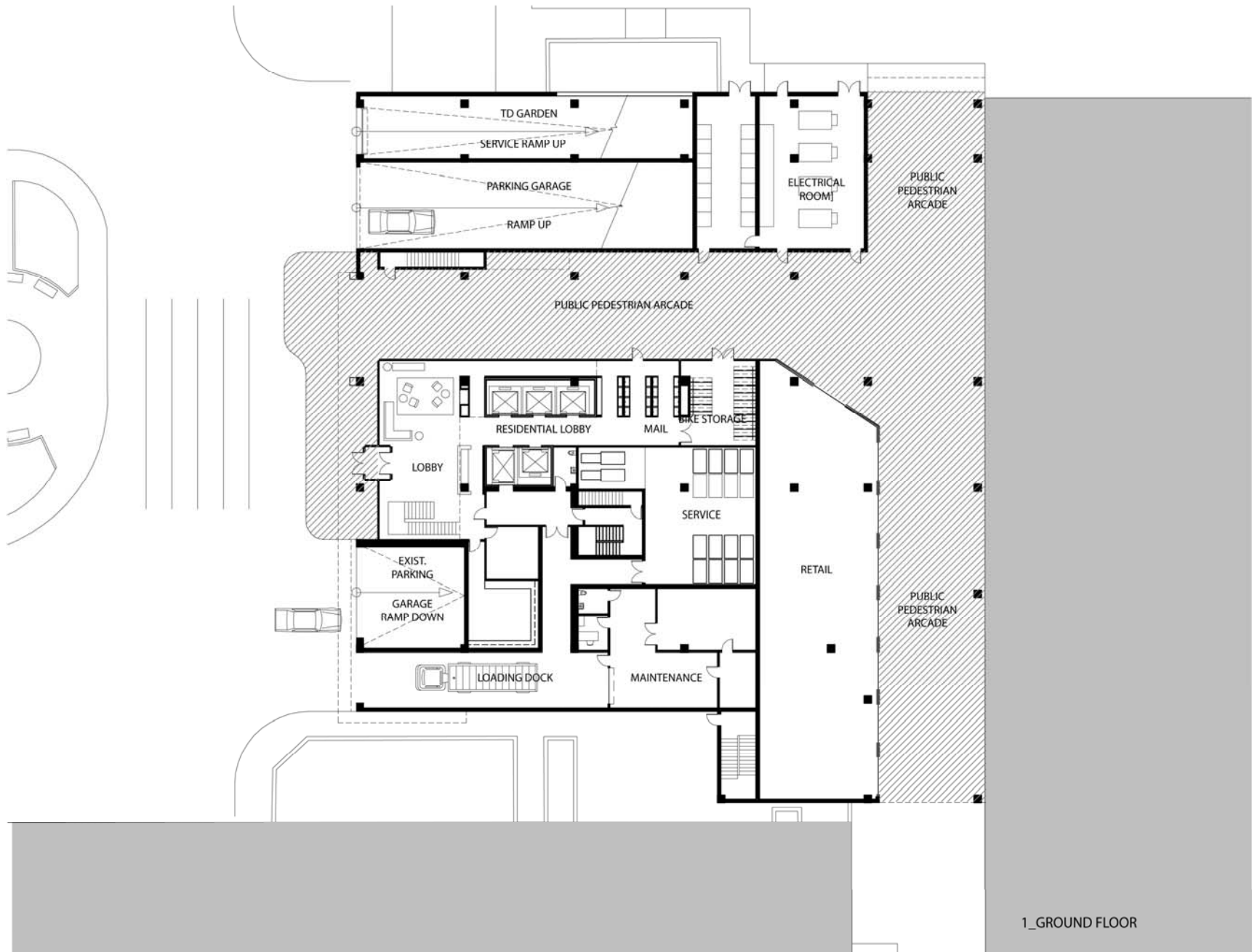
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Nashua Street Residences Boston, Massachusetts



Nashua Street Residences Boston, Massachusetts



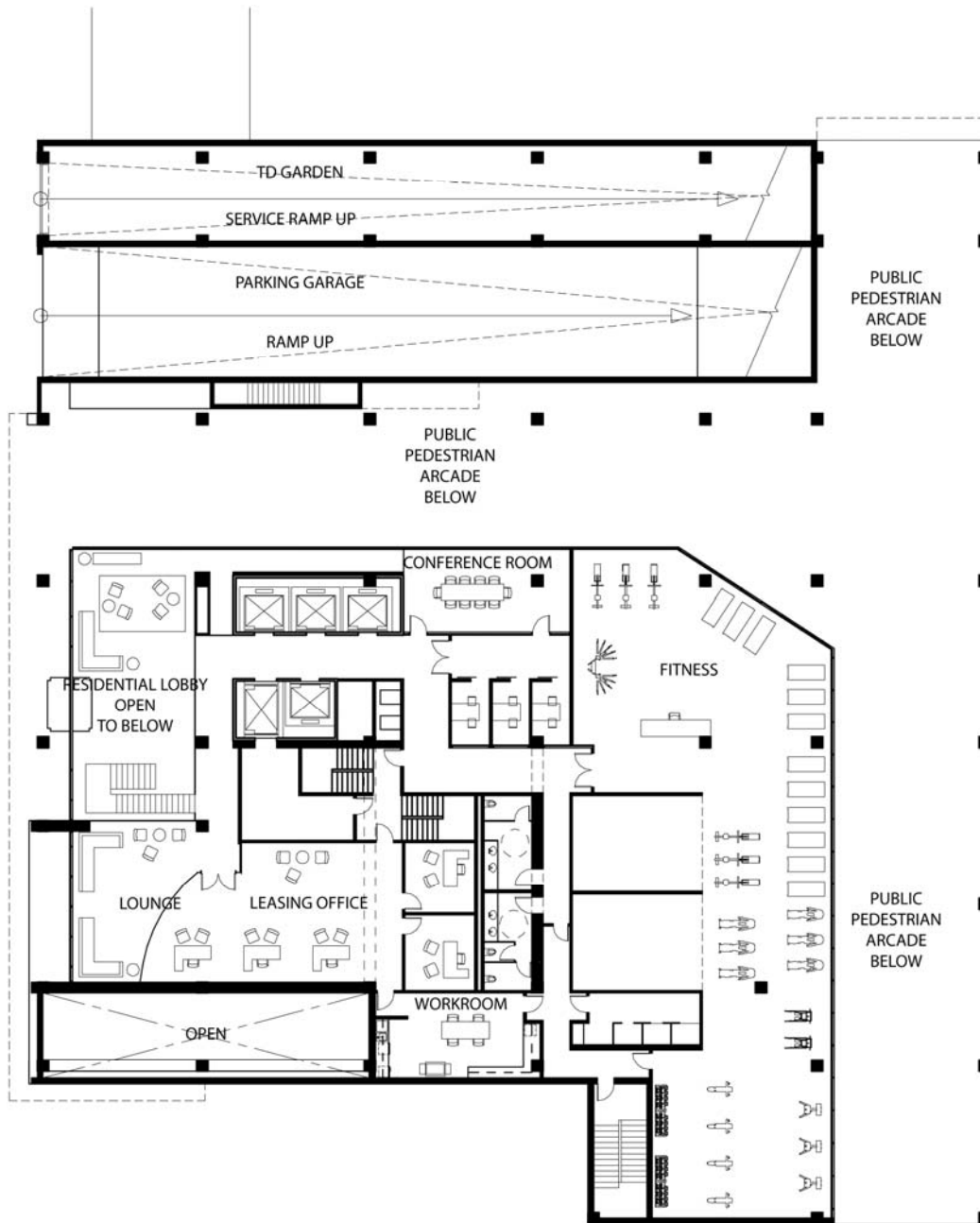
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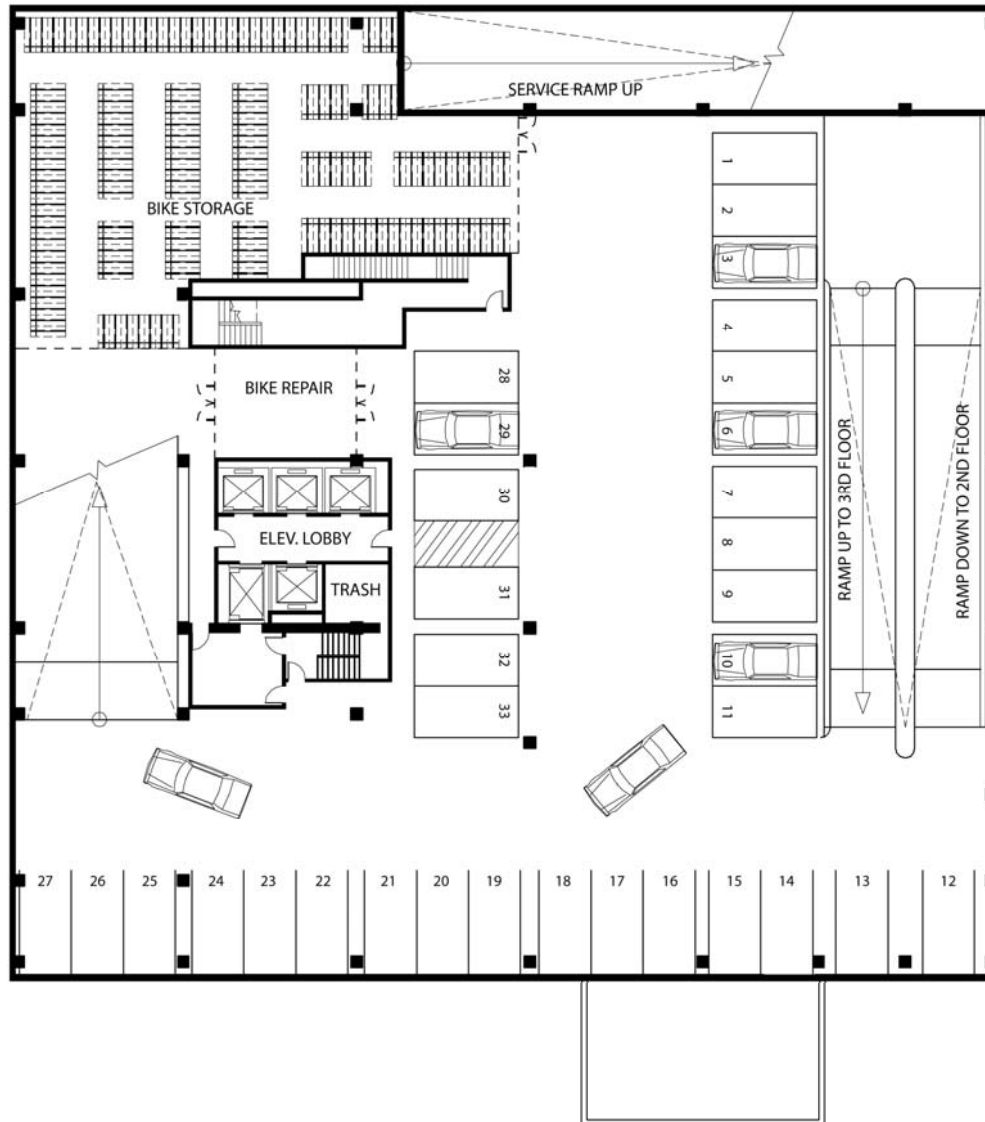
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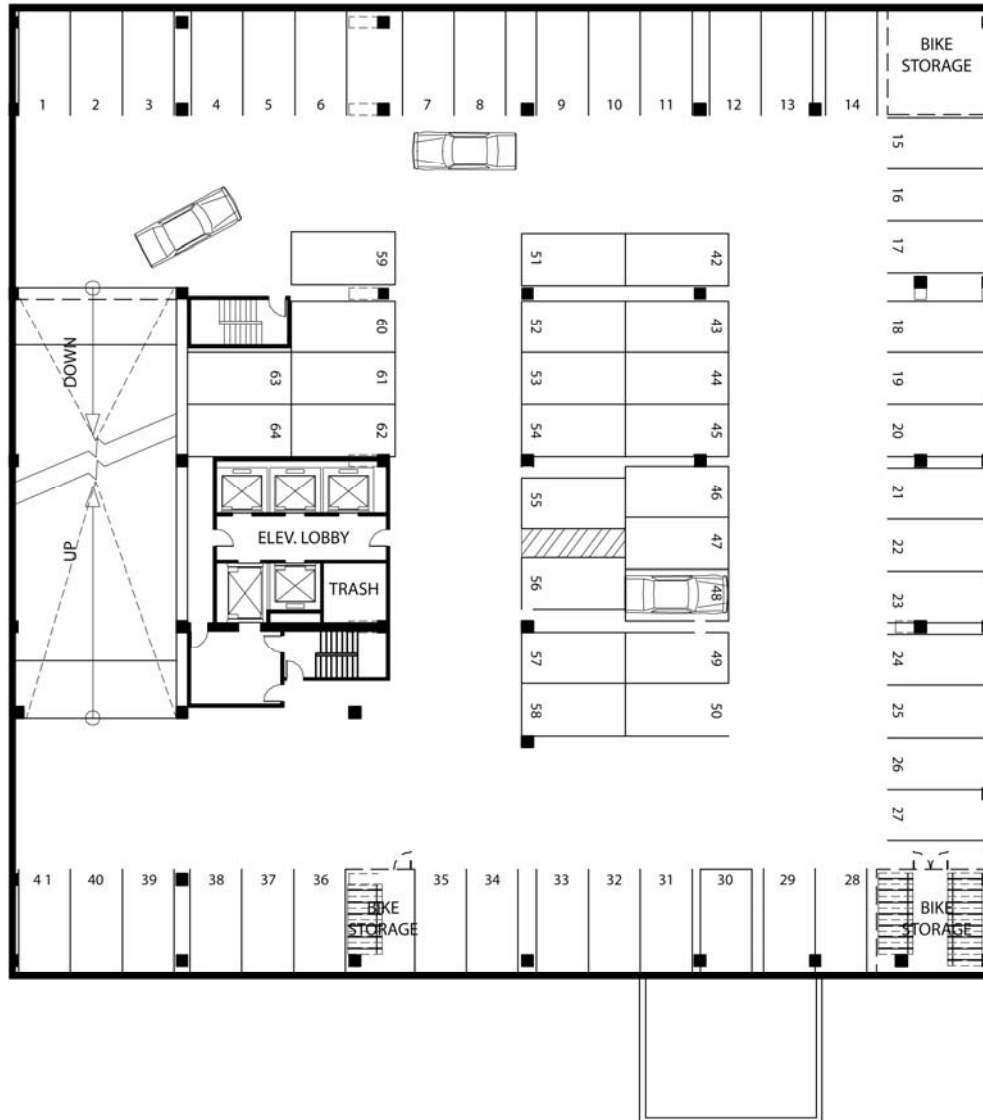
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Nashua Street Residences Boston, Massachusetts



Nashua Street Residences Boston, Massachusetts

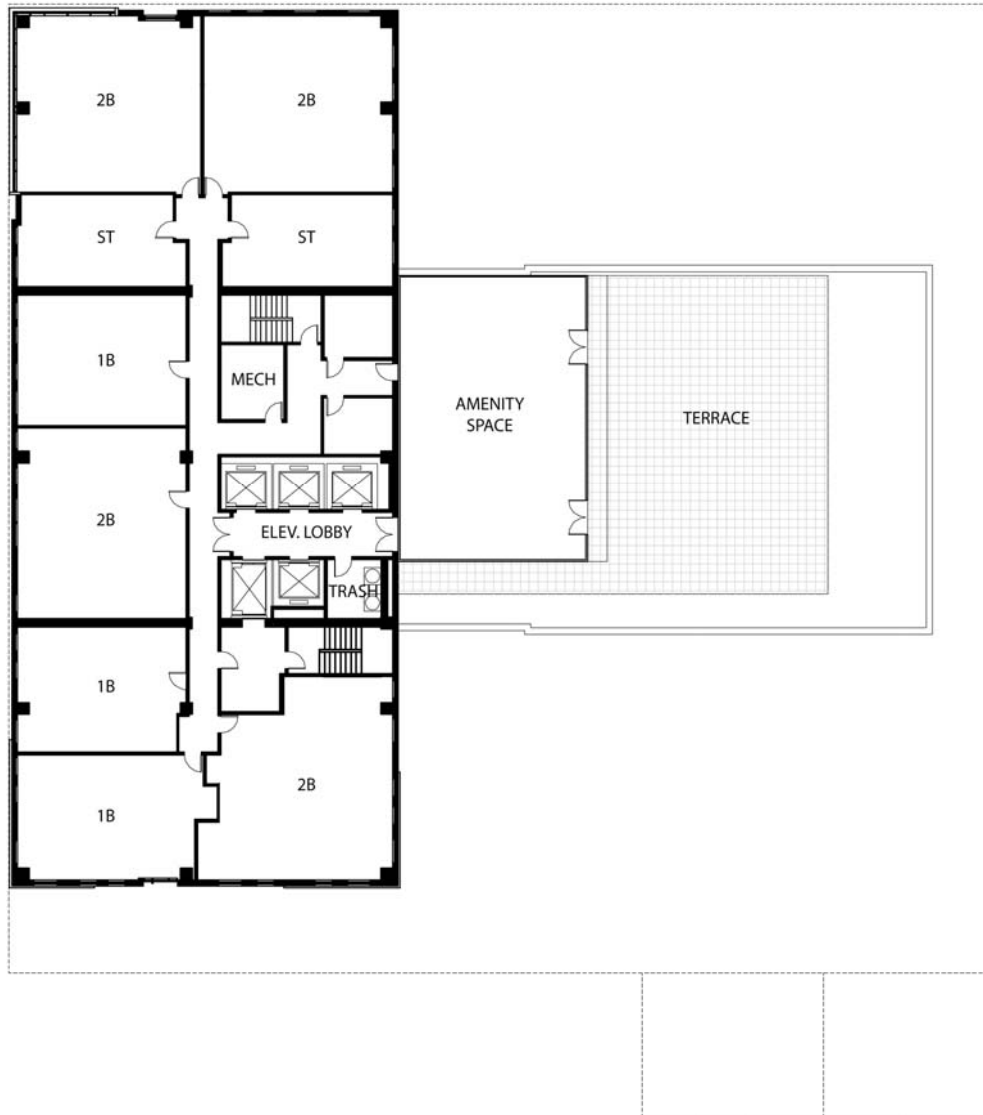


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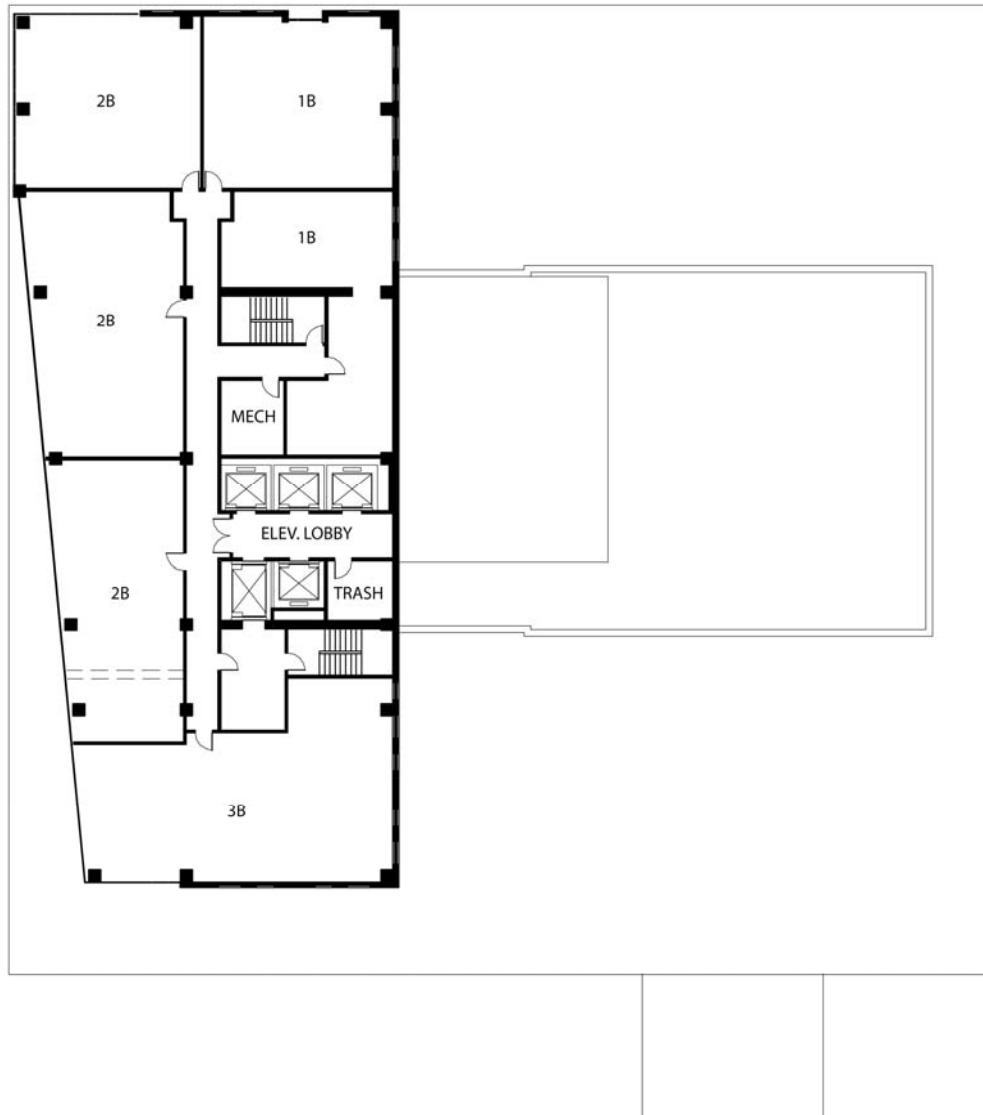
Figure 4-14
Floors 4-5, Typical Garage Level



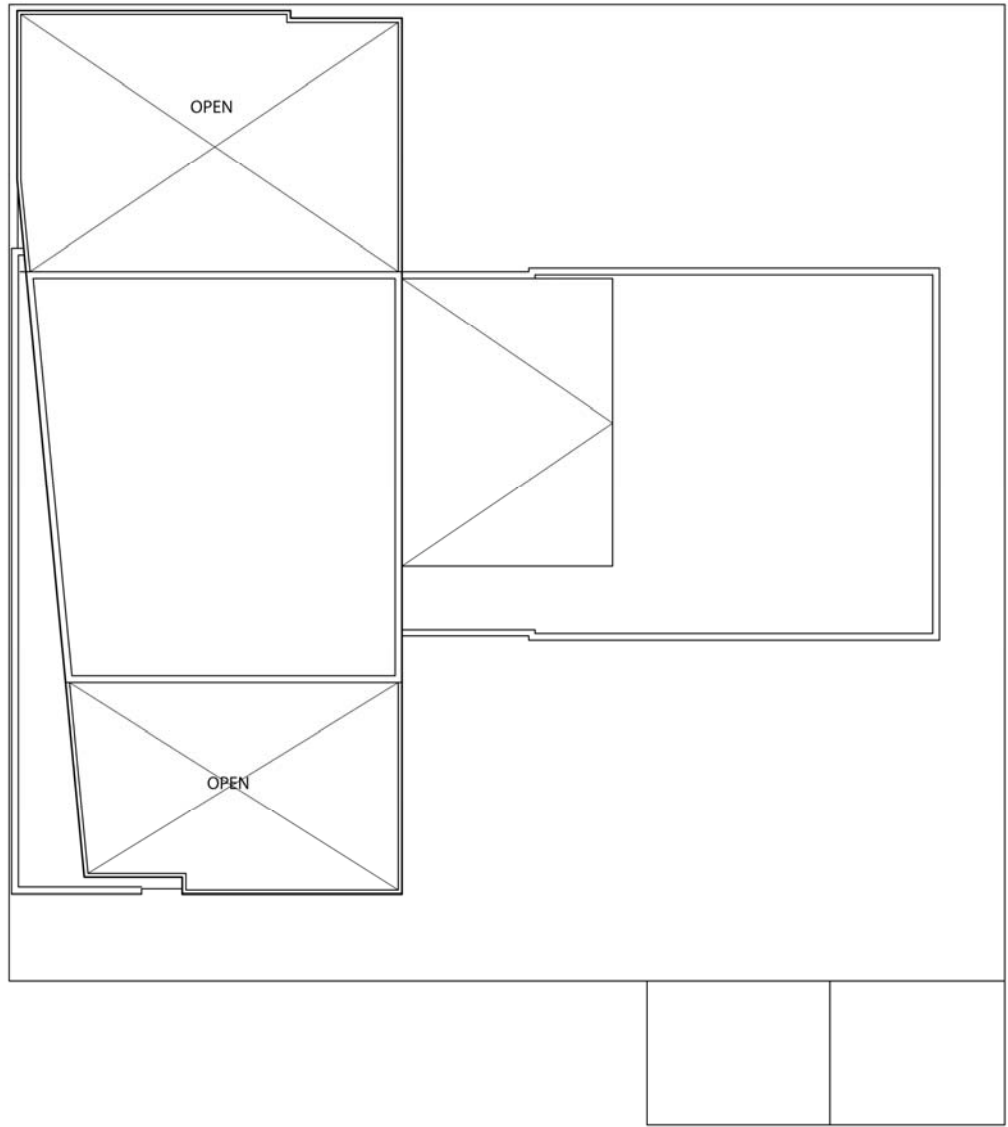
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Nashua Street Residences Boston, Massachusetts



Nashua Street Residences Boston, Massachusetts



Nashua Street Residences Boston, Massachusetts

Chapter 5.0

Infrastructure

5.0 INFRASTRUCTURE COMPONENT

5.1 Introduction

This chapter evaluates the change in infrastructure demands for the Project as compared to the Previously Approved Project and the ability of the available infrastructure systems to support the Project. Based on consultations with the appropriate agencies and utility companies, the existing infrastructure systems are adequately sized to accept the incremental increase in demand associated with the revised Project program. The following utilities have been evaluated: wastewater, water, stormwater management, natural gas, steam, electricity, and telecommunications. In addition, consideration is given to the sustainable elements of the energy supply provision for the Project.

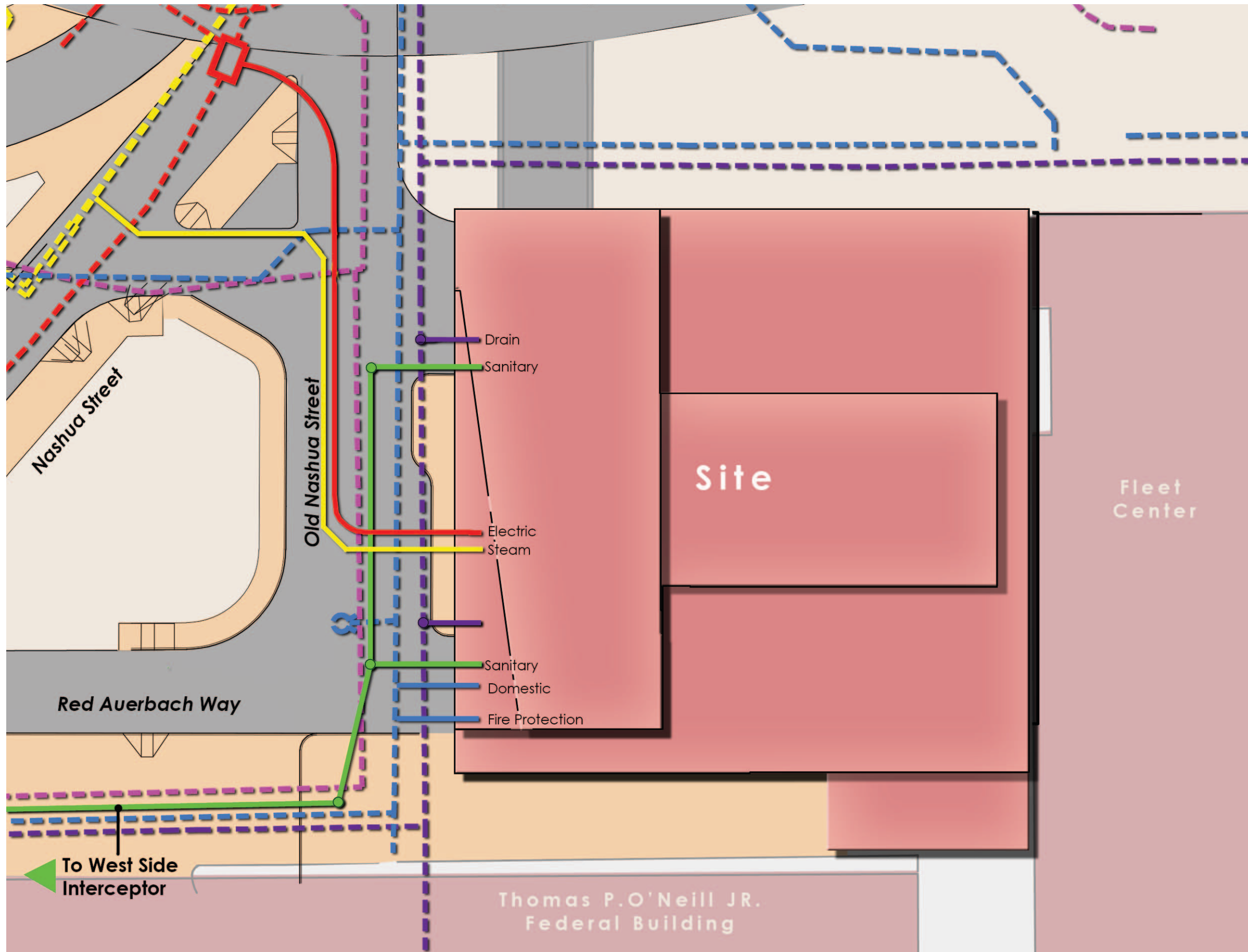
The final design process for the Project will include all required engineering analyses and will adhere to all applicable protocols and design standards, ensuring that the proposed building is properly supported by, and in turn properly uses, the City's infrastructure. Detailed design of the Project's utility systems will proceed in conjunction with the design of the buildings and interior mechanical systems.

The Project consists of a residential structure with above grade parking, ground floor retail (3,575 square feet) and second floor residential amenity/support space which includes a fitness center and management space. The building will include 503 residential units (114 studios, 153 one-bedroom units, 205 two-bedroom units and 31 three-bedroom units) and 219 parking spaces. The building will be approximately 415 feet tall (38 stories). The ground floor will offer a pedestrian arcade connecting Nashua Street to North Station and the TD Garden with active retail and lobby spaces supporting residents and passers-by. The Project will connect to existing City and utility company systems in the adjacent public streets.

Compared to the Previously Approved Project the residential unit space increased by approximately 64,480 sf and retail decreased by about 4,219 square feet to allow for establishment of the pedestrian arcade. The Project has a modest increase in space for resident amenities and support as compared to the Previously Approved Project.

5.2 Wastewater

The Propose Project's 503 residential units, support space and retail will generate approximately 86,129 gallons per day (gpd) of sewage which is an increase of 29,079 gpd over the Previously Approved Project. Generation rates from the Massachusetts State Environmental Code (Title 5) were used.



- Proposed Electric
- - - Existing Electric
- Proposed Gas
- - - Existing Gas
- Proposed Water
- - - Existing Water
- Proposed Drain
- - - Existing Drain
- Proposed Sewer
- - - Existing Sewer
- Proposed Steam
- - - Existing Steam

Nashua Street Residences Boston, MA

Based on discussions with BWSC the WSI has capacity to accept the Project flows. The Proponent will continue to coordinate with the BWSC on the design and capacity of the proposed connection to the sewer system. In addition, the Proponent will submit a General Service Application and site plan for review as the Project progresses through the design stage.

5.3 Domestic Water Supply and Fire Protection Services

Domestic water demand is based on estimated sewage generation with an added factor of ten percent for consumption, system losses, and other use. Based upon sewage generation rates outlined in the DEP's Sewer Connection and Extension Regulations, 310 CMR 15.203.f, the Project will require 94,742 gallons of water per day which is an increase of 31,987 gallons per day over the Previously Approved Project.

Both domestic and fire protection services are consistent with the Previously Approved Project. Based on discussions with BWSC, capacity is available to support the Project in this existing system.

5.4 Stormwater Management

The Project is for all intents and purposes equivalent to the Previously Approved Project. The biggest change in stormwater approach is due to the change in BWSC regulations requiring additional stormwater treatment since the time that the Project was approved. Either project would need to address and conform to BWSC's most current design requirements.

Current BWSC design guidelines require that new projects that contribute drainage to the Charles River are to include facilities for treating phosphorous as a stormwater pollutant. The current design of the Project incorporates chambers and media filters to treat for phosphorous prior to discharge to the BWSC receiving system.

As part of BWSC's review process, the Project will identify appropriate measures such as detention and reuse of stormwater wherever applicable to minimize flows from the site.

5.4.1 Compliance with DEP Stormwater Management Policy

The Project's approach conforms to the Massachusetts Department of Environmental Protection's (MassDEP) Stormwater Management Standards as updated through 2008. The Project involves the redevelopment of a previously developed Site. Standard 7 of the Stormwater Management Standards states "Redevelopment of previously developed sites must meet the Stormwater Management Policy to the maximum extent practicable. However, if it is not practicable to meet all the Standards, new (retrofitted or expanded) stormwater management systems must be designed to improve existing conditions." To demonstrate the ways in which the Project will be consistent with the Stormwater Management Policy, a discussion of each Stormwater Management Standard follows:

Standard #1: Untreated Stormwater

The Project will treat the runoff contributed by plazas and driveway areas through appropriate stormwater measures. DEP Management Standards identify rooftop runoff (except certain metal roofs) as uncontaminated for the purposes of the Stormwater Management Standards.

Standard #2: Post-Development Peak Discharge Rates

The impervious/pervious characteristics of the Site are essentially the same for both the Existing and Future Conditions. Accordingly, the post-development discharge rate is expected not to exceed the pre-development discharge rate to the receiving body of water (Charles River). Since the discharge rate is not expected to increase, no increased flooding impacts are expected.

Standard #3: Recharge to Groundwater

Because the Site is mostly impervious and very limited excavation is required, groundwater recharge conditions will remain unchanged. The Project will be built over an existing garage structure which will remain. Due to this significant constraint, there are no opportunities for recharge on-site.

Standard #4: 80 Percent Total Suspended Solids Removal

Best Management Practices (BMPs) under consideration for use in modified areas are deep sump and hooded catch basins and additional oil/gas separators (in the driveway area). These stormwater controls will remove total suspended solids (TSS) to the maximum extent feasible.

Standard #5: Higher Potential Pollutant Loads

The Project Site does not contain land uses with higher potential pollutant loads.

Standard #6: Protection of Critical Areas

The Project Site does not contain any critical areas.

Standard #7: Redevelopment Projects

The Project does not increase impervious area and the Project meets the Stormwater Management Standards to the maximum extent practicable, which is required to meet Standard #7.

5.5 Fire Prevention and Control

No change in fire protection approach is anticipated as a result of the Project Change.

5.6 Anticipated Energy Needs

5.6.1 *Natural Gas Service*

National Grid has an intermediate pressure gas service in Old Nashua Street along the Site frontage. The Project's anticipated gas demand for heating and kitchen use is estimated at 36,000 cubic feet per hour (Cfh), which is a 6,000 Cfh increase over the Previously Approved Project. Preliminary coordination with National Grid indicates that adequate natural gas supply is available to support the Project. . As the design progresses, the Proponent and National Grid will coordinate the final design and installation of the gas service.

5.6.2 *Steam Service*

Veolia Energy recently completed a steam supply improvement has provided written confirmation that adequate service to support the Project is available at the Site frontage.

5.6.3 *Electrical Service*

The electrical service approach for the Project is equivalent to the Approved Project. NSTAR owns a 13.8 kV primary electric system in Nashua Street. As the design progresses, the Proponent and NSTAR will coordinate the final design and installation of electrical service.

5.6.4 *Telecommunications*

The Proponent will select private telecommunications companies to provide telephone, cable, and data services to the Project. There are several potential candidates with substantial downtown Boston networks capable of providing service to the Project. Upon selection of a provider or providers, the Proponent will coordinate service connection locations and obtain appropriate approvals.

5.7 Conclusion

Although the change made to the Previously Approved Project by the Project result in minor incremental change in utility demands, the Project is well supported by the existing utility infrastructure in an area which is a well served urban location. Research and coordination with appropriate companies and agencies indicate that these services are adequately sized to support the increased demands associated with the development of the Project. The Project improves the Previously Approved Project in certain respects related to infrastructure since it is consistent with updated standards implemented under the Massachusetts DEP Stormwater Management Policy, and the Project incorporates sustainable design and energy conservation measures.

Appendix A

Wind



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& SCIENTISTS

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Fax: 519.823.1316

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West
Guelph, Ontario, Canada
N1K 1B8

October 17, 2012

Mr. Philip Casey, AIA, LEED AP
Associate Principal
CBT Architects
110 Canal Street
Boston, MA 02114

**Re: Pedestrian Wind Conditions
Nashua Street Residences
Boston, Massachusetts
RWDI Reference No. 1300383**

Email: casey@cbtarchitects.com

Dear Mr. Casey,

Rowan Williams Davies & Irwin Inc. (RWDI) has prepared this letter to comment on the potential wind effects of recent design changes to the proposed residential development at Nashua Street in Boston, Massachusetts. Updated architectural drawings were provided to RWDI by CBT Architects on October 1, 2012. This assessment is based on our extensive wind engineering experience in the Boston area and the results of wind tunnel tests conducted for the same development in the past.

Wind tunnel tests were conducted by RWDI for the proposed development in 2004. Our findings were summarized in the following report:

“Final Report – Pedestrian Wind Study, Nashua Street Residences, Boston, Massachusetts”,
RWDI Project # 04-1398, October 12, 2004.

Overall, the wind tunnel results from 2004 indicated that wind conditions were similar for the No Build and Build Configurations in the surrounding areas. However, the 2004 results showed that winds downwashing off the proposed tower would result in uncomfortable and/or unacceptable wind conditions at several areas around the development site, particularly west and northwest of the proposed development.

As indicated by the most updated drawings received by RWDI on October 1, 2012, the general massing of the proposed building remains similar to the previous design (see Images 1a and 1b below). However, there are several design modifications that may potentially affect pedestrian wind conditions:

- The proposed tower will be approximately 440 ft tall, compared to 460 ft in the previous design.
- The new floor layout of the tower will be T-shaped (Image 2a), resulting in a large podium setback at the northeast and southeast corners. In contrast, the previous design included a rectangular floor plate and podium setbacks on the east and west sides (see Image 1a).
- The large entrance canopy in the previous design (Image 1a) has been removed, and the main entrance in the new design will be setback at the first floor and will include a smaller canopy above and large structural columns on both sides of the main entrance on the west facade (see Image 2b).



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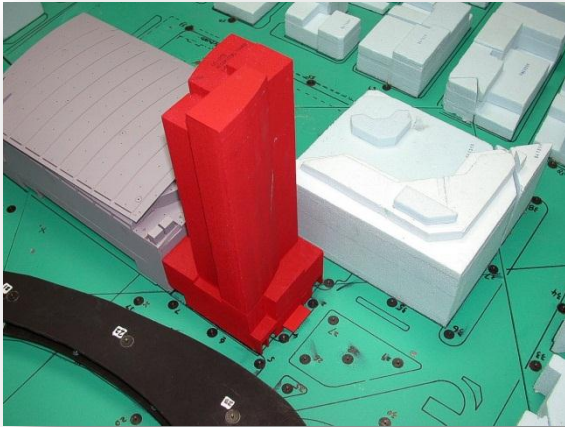


Image 1a – Wind Tunnel Model in 2004

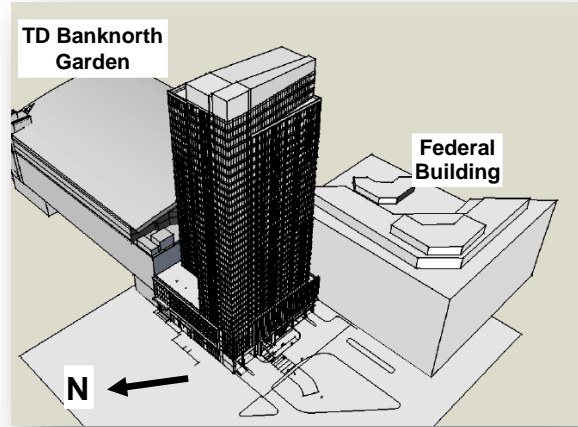


Image 1b – Revised Design in 2012

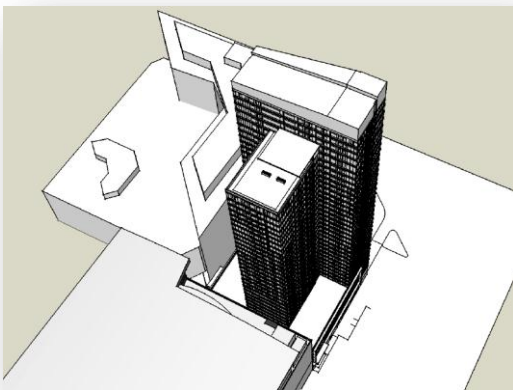


Image 2a – 2012 Design View from the North

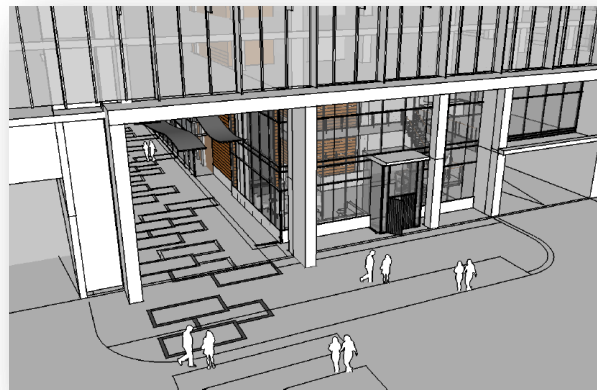


Image 2b – 2012 Design West Entrances

Considering the similarity in building massing, it is our opinion that the potential wind conditions around the currently proposed development will be similar to those predicted by the past wind tunnel tests. Uncomfortable and/or unacceptable wind conditions are anticipated at street level in the areas immediately west and northwest of the development, due to the prevailing northwesterly winds downwashing off of the tower façade. Strong winds are also expected at the east end of the passageway between the TD Banknorth Garden and the Federal Building due to the northeasterly winds. As stated in our 2004 report, wind control solutions can be developed for these areas to reduce the wind activity to an appropriate level. They may take the form of wind screens, landscaping, canopies and/or trellises, or other features.



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& SCIENTISTS

With the setback, canopy and columns in place, the main entrance on the west façade is expected to have wind conditions similar to those that were previously predicted. They are suitable for the intended use most of the time. If lower wind activity is desired along the west façade, a larger entrance canopy can be considered.

The passageways underneath the proposed tower will be windy, as suggested by the previous wind-tunnel results, but in general they are considered suitable for walking.

If frequent use of the podium areas is anticipated, landscaping elements such as tall parapets, screens, trellises and trees can be used to improve wind conditions in the summer when these areas will typically be in use.

Should future buildings be developed in the neighborhood, they will likely affect the wind conditions on and around the proposed development. Thus, their wind effects should be reviewed when the information is available.

Overall, the pedestrian wind conditions for the current design are predicted to be similar to those predicted by our previous wind tunnel tests from 2004, and wind mitigation measures have been recommended to improve the wind conditions in localized areas. We trust the above assessment satisfies your requirements for the project. Should you have any questions or require additional information, please do not hesitate to contact us.

Yours very truly,

ROWAN WILLIAMS DAVIES & IRWIN Inc.

A handwritten signature in black ink, appearing to read 'Hanqing Wu', written in a cursive style.

Hanqing Wu, Ph.D., P.Eng.
Technical Director / Principal

A handwritten signature in black ink, appearing to read 'Greg Thompson', written in a cursive style.

Greg Thompson, M.A.Sc.
Senior Project Manager / Associate

HW/GPT/smd

Appendix B

LEED Checklist



LEED 2009 for New Construction and Major Renovations

Project Checklist

Nashua Street Residences

10.26.12

19 3 4 Sustainable Sites Possible Points: 26

Y	?	N			
Y			Prereq 1	Construction Activity Pollution Prevention	
1			Credit 1	Site Selection	1
5			Credit 2	Development Density and Community Connectivity	5
		1	Credit 3	Brownfield Redevelopment	1
6			Credit 4.1	Alternative Transportation—Public Transportation Access	6
1			Credit 4.2	Alternative Transportation—Bicycle Storage and Changing Rooms	1
3			Credit 4.3	Alternative Transportation—Low-Emitting and Fuel-Efficient Vehicles	3
2			Credit 4.4	Alternative Transportation—Parking Capacity	2
		1	Credit 5.1	Site Development—Protect or Restore Habitat	1
		1	Credit 5.2	Site Development—Maximize Open Space	1
1			Credit 6.1	Stormwater Design—Quantity Control	1
1			Credit 6.2	Stormwater Design—Quality Control	1
1			Credit 7.1	Heat Island Effect—Non-roof	1
1			Credit 7.2	Heat Island Effect—Roof	1
		1	Credit 8	Light Pollution Reduction	1

2 8 Water Efficiency Possible Points: 10

Y	?	N			
Y			Prereq 1	Water Use Reduction—20% Reduction	
		4	Credit 1	Water Efficient Landscaping	2 to 4
		2	Credit 2	Innovative Wastewater Technologies	2
	2	2	Credit 3	Water Use Reduction	2 to 4

7 7 21 Energy and Atmosphere Possible Points: 35

Y	?	N			
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems	
Y			Prereq 2	Minimum Energy Performance	
Y			Prereq 3	Fundamental Refrigerant Management	
5	2	12	Credit 1	Optimize Energy Performance	1 to 19
		7	Credit 2	On-Site Renewable Energy	1 to 7
	2		Credit 3	Enhanced Commissioning	2
2			Credit 4	Enhanced Refrigerant Management	2
	3		Credit 5	Measurement and Verification	3
		2	Credit 6	Green Power	2

3 5 6 Materials and Resources Possible Points: 14

Y	?	N			
Y			Prereq 1	Storage and Collection of Recyclables	
		3	Credit 1.1	Building Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
		1	Credit 1.2	Building Reuse—Maintain 50% of Interior Non-Structural Elements	1
1	1		Credit 2	Construction Waste Management	1 to 2
		2	Credit 3	Materials Reuse	1 to 2

Materials and Resources, Continued

Y	?	N			
2			Credit 4	Recycled Content	1 to 2
	2		Credit 5	Regional Materials	1 to 2
	1		Credit 6	Rapidly Renewable Materials	1
	1		Credit 7	Certified Wood	1

9 5 1 Indoor Environmental Quality Possible Points: 15

Y	?	N			
Y			Prereq 1	Minimum Indoor Air Quality Performance	
Y			Prereq 2	Environmental Tobacco Smoke (ETS) Control	
	1		Credit 1	Outdoor Air Delivery Monitoring	1
	1		Credit 2	Increased Ventilation	1
	1		Credit 3.1	Construction IAQ Management Plan—During Construction	1
	1		Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
	1		Credit 4.1	Low-Emitting Materials—Adhesives and Sealants	1
	1		Credit 4.2	Low-Emitting Materials—Paints and Coatings	1
	1		Credit 4.3	Low-Emitting Materials—Flooring Systems	1
	1		Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
	1		Credit 5	Indoor Chemical and Pollutant Source Control	1
	1		Credit 6.1	Controllability of Systems—Lighting	1
	1		Credit 6.2	Controllability of Systems—Thermal Comfort	1
	1		Credit 7.1	Thermal Comfort—Design	1
	1		Credit 7.2	Thermal Comfort—Verification	1
		1	Credit 8.1	Daylight and Views—Daylight	1
	1		Credit 8.2	Daylight and Views—Views	1

4 2 Innovation and Design Process Possible Points: 6

Y	?	N			
1			Credit 1.1	Innovation in Design: SSc2	1
1			Credit 1.2	Innovation in Design: SSc4.1	1
1			Credit 1.3	Innovation in Design: SSc7.1	1
		1	Credit 1.4	Innovation in Design: Low Mercury Lighting	1
		1	Credit 1.5	Innovation in Design: Specific Title	1
1			Credit 2	LEED Accredited Professional	1

1 3 Regional Priority Credits Possible Points: 4

Y	?	N			
1			Credit 1.1	Regional Priority: SSc7.1	1
		1	Credit 1.2	Regional Priority: Specific Credit	1
		1	Credit 1.3	Regional Priority: Specific Credit	1
		1	Credit 1.4	Regional Priority: Specific Credit	1

43 22 45 Total Possible Points: 110

Certified 40 to 49 points Silver 50 to 59 points Gold 60 to 79 points Platinum 80 to 110